REPORT

ON

THE CONDITION AND PROGRESS

OF THE

QUEEN'S UNIVERSITY IN IRELAND,

FROM

1ST SEPTEMBER, 1857, TO 1ST SEPTEMBER, 1858.

BY

THE RIGHT HON. MAZIERE BRADY,

VICE-CHANCELLOR OF THE UNIVERSITY.

Presented to both Houses of Parliament by Command of Her Majesty.

DUBLIN:

PRINTED BY ALEX. THOM & SONS, 87 & 88, ABBEY-STREET,

FOR HER MAJESTY'S STATIONERY OFFICE.

1858.

E 28

BIBLIOTHECA LAMBETHANA

REPORT

ON

THE CONDITION AND PROGRESS

OF THE

QUEEN'S UNIVERSITY IN IRELAND,

FROM

1ST SEPTEMBER 1857, TO 1ST SEPTEMBER, 1858.

BY

THE RIGHT HON. MAZIERE BRADY,

VICE-CHANCELLOR OF THE UNIVERSITY.

Presented to both Houses of Parliament by Command of Her Majesty.

DUBLIN:

PRINTED BY ALEX. THOM AND SONS, 87 AND 88, ABBEY-STREET,

FOR HER MAJESTY'S STATIONERY OFFICE.

1858.

CONTENTS.

Page

REPORT, ... 3

APPENDIX:

I. Report of Public Meeting of the Queen's University in Ireland, held in St. Patrick's Hall, Dublin Castle, on 3rd October, 1857, ... 4, 5

II. Examination Papers for Degrees, Diplomas, and Honors, in the following order:—

EXAMINATIONS FOR THE DEGREE OF A.M., AND HONORS.

Group I. Page

Latin: Morning—Afternoon, . . 8
Greek: Morning—Afternoon, . . 10
English Composition, . . . 13
Continental Languages, . . . 13

Group II.

English Philology and Criticism: Morning—Afternoon, . . . 14
Logic, ... 14
Metaphysics, ... 15
Jurisprudence (No. 1 and No. 2), . 16
Political Economy, ... 17

Group III.

Pure Mathematics, ... 17
Mixed Mathematics: Morning—Afternoon, ... 18

Group IV.

Physics, ... 19
Chemistry, ... 19
Zoology and Botany, . . . 19
Elements of Geology, Palæontology, Physical Geography, Mineralogy, and Crystallography, ... 19

EXAMINATIONS FOR THE DEGREE OF A.B.

Group A. (*Compulsory*).

Latin, ... 20
Greek, ... 21
Continental Languages, . . . 22
Mathematics, ... 23

Group B.

English, ... 23
Logic, ... 24
Metaphysics, or Jurisprudence and Political Economy, ... 24

Group C.

Natural Philosophy, ... 25
Chemistry, ... 26

Group D.

Zoology and Botany, . . . 26
Physical Geography, . . . 26

HONOR EXAMINATION FOR THE DEGREE OF A.B.

Latin: Morning—Afternoon, . . 26
Greek: Morning—Afternoon, . . 28
English: Morning—Afternoon, . . 31
Continental Languages, . . . 31
Celtic Languages, ... 32
Pure Mathematics: Morning—Afternoon, ... 33
Mixed Mathematics: Morning—Afternoon, ... 35
Physics: Morning—Afternoon, . 35
Chemistry: Morning, . . . 36

Page

Crystallography and Heat: Afternoon, 36
Zoology and Botany, . . . 36
Geology and Physical Geography, . 36
Logic, ... 37
Metaphysics, ... 38
Jurisprudence (No. 1 and No. 2), . 39
Political Economy, ... 40

EXAMINATION FOR THE DEGREE OF LL.B.

Law of Property, and Principles of Conveyancing, ... 40
Jurisprudence, ... 40
Equity, ... 41
Common and Criminal Law, . . 41
Civil Law, ... 41
Pleading, Practice, and Evidence, . 41
Constitutional Law, ... 42
Colonial Law, ... 42
International Law, ... 42

HONOR EXAMINATION FOR THE DEGREE OF LL.B.

Law of Property and Principles of Conveyancing, ... 42
Jurisprudence, ... 42
Equity, ... 43
Common and Criminal Law, . . 43
Civil Law, ... 44
Pleading, Practice, and Evidence, . 44
Constitutional Law, ... 44
Colonial Law. 44
International Law, ... 44

EXAMINATION FOR THE DIPLOMA IN ELEMENTARY LAW.

Law of Property, and Principles of Conveyancing, ... 45
Jurisprudence, ... 45
Equity, ... 45
Common and Criminal Law, . . 45
Civil Law, ... 46

HONOR EXAMINATION FOR DIPLOMA OF ELEMENTARY LAW.

Law of Property, and Principles of Conveyancing, ... 46
Jurisprudence, ... 46
Equity, ... 47
Common and Criminal Law, . . 47
Civil Law, ... 47

EXAMINATIONS IN MEDICINE.

Medicine, ... 47
Surgery, ... 48
Midwifery, and Diseases of Women and Children, ... 48
Medical Jurisprudence, . . . 48
Materia Medica, and Pharmacy, . 48
Anatomy, ... 49

Page

Physiology and Comparative Anatomy, 49
Natural Philosophy, ... 49
Chemistry, ... 50
Zoology, and Botany, . . . 50
Continental Languages, . . . 50

HONOR EXAMINATION IN MEDICINE.

Medicine, ... 51
Surgery, ... 51
Midwifery, and Diseases of Women and Children, ... 51
Medical Jurisprudence, . . . 52
Medical Jurisprudence, Materia Medica, and Pharmacy, ... 52
Materia Medica, and Pharmacy, . 52
Anatomy and Physiology, Senior Class: Morning—Afternoon, . . . 52
Anatomy and Physiology, Junior Class: Morning—Afternoon, . . . 53
Natural Philosophy, ... 53
Chemistry, ... 54
Zoology, and Botany, . . . 54
Continental Languages, . . . 54

EXAMINATION FOR DIPLOMA IN CIVIL ENGINEERING.

Engineering and Architecture, . . 55
Theory of Motive Powers, . . 55
Surveying and Mapping, . . . 56
Drawing and Geometry, . . . 56
Mathematics: Morning—Afternoon, . 56
Natural Philosophy, ... 57
Chemistry, ... 57
Mineralogy, Geology, and Physical Geography, ... 57

EXAMINATION FOR DIPLOMA IN AGRICULTURE.

Agriculture: Morning—Afternoon, . 58
History and Diseases of Farm Animals, 58
Surveying and Mapping, . . . 58
Arithmetic, ... 58
Natural Philosophy, ... 59
Chemistry, ... 59
Zoology, and Botany, . . . 59
Mineralogy, Geology, and Physical Geography, ... 59

HONOR EXAMINATION FOR DIPLOMA IN AGRICULTURE.

Agriculture: Morning—Afternoon, . 60
History and Diseases of Farm Animals, 60
Surveying and Mapping, . . . 60
Mathematics, ... 61
Physics, ... 61
Chemistry, ... 61
Zoology, and Botany, . . . 62
Mineralogy, Geology, and Physical Geography, ... 62

III. Lists of Persons on whom Degrees and Diplomas have been conferred, and of those to whom Honors have been distributed, ... 62

IV. Ordinance regulating the Conditions, Forms, and Subjects of the Degree, Diploma, and Honor Examinations, for the Year 1858, ... 63

V. Returns of Students attending Medical Schools and Hospitals during the Year, . . 69

VI. Estimate of the Sum that will probably be required to defray the Expenses of the Queen's University in Ireland for the Year ending 31st March, 1859, ... 69

VII. Cash Account of the Queen's University for the Year ending 20th June, 1858, . . 69

VIII. Examiners, elected 19th July, 1858, ... 69

IX. Meetings of the Senate for the period of this Report, ... 70

REPORT.

TO HIS EXCELLENCY THE EARL OF EGLINTON AND WINTON, LORD LIEUTENANT GENERAL, AND GENERAL GOVERNOR OF IRELAND.

QUEEN'S UNIVERSITY, DUBLIN CASTLE, *September* 1, 1858.

MAY IT PLEASE YOUR EXCELLENCY,

In the absence of the Earl of Clarendon, Chancellor of the Queen's University in Ireland, it becomes my duty, as Vice-Chancellor, in compliance with the provisions of Her Majesty's Charter, to furnish to your Excellency the Report of its condition and progress since the 1st of September, 1857.

In accordance with the Ordinance of the 6th of November, 1856 (as printed in the Fourth Appendix to last year's Report), the Examinations of 1857 commenced on the 15th, and terminated on the 28th of September; they were principally conducted by printed papers, copies of which are hereunto annexed. App. II.

At the close of the Examinations, at which Seventy Candidates presented themselves, those named in the accompanying lists were duly passed by the Examiners, for the Degrees, Diplomas, and Honors, attached to their respective names, all of which were accordingly conferred at a public meeting of the University, held in St. Patrick's Hall, Dublin Castle, on the 3rd of October last. App. III.

His Excellency the Earl of Carlisle was graciously pleased to honour this meeting with his presence. An account of the proceedings on the occasion will be found appended to this Report, and will present to the notice of your Excellency the important fact, that the number of Queen's College Students who then appeared as Candidates for University Degrees, considerably exceeded those of the like classes, in each of the two preceding years. App. I.

The following papers, relating to this University, are also annexed for your Excellency's information.

The Ordinance regulating the Examinations for the current year. App. IV.

A return of the Medical Schools which have reported to the Senate. App. V.

The Estimate for the current year. App. VI.

The Cash Account for the year ending 20th June, 1858. App. VII.

List of Examiners elected 19th of July, 1858. App. VIII.

Return of the several meetings of the Senate since last Report. App. IX.

I have the honour to be
Your Excellency's
Obedient and faithful Servant,
MAZIERE BRADY,
Vice-Chancellor.

APPENDIX.

Appendix I.

Public Meeting of the Queen's University in Ireland, held in St. Patrick's Hall, Dublin Castle, on the 3rd October, 1857.

After the close of the examinations of the year 1857, a public meeting of the Queen's University was held in St. Patrick's Hall, Dublin Castle, on the 3rd of October, 1857, for the conferring of degrees and diplomas.

A large number of distinguished persons having taken their places in the Examination Hall, the Senate of the University, the Professors and Examiners, and the candidates, entered it in procession.

The Vice-Chancellor, attended by the Secretary, then proceeded to the entrance of the hall, and conducted his Excellency the Lord Lieutenant to the chair set apart for him.

After all were seated, the Vice-Chancellor rose and addressed the assembly in the following terms:—

On this, the seventh occasion of the assembly of the Senate of the Queen's University to confer degrees and honors on the students of the Colleges of Belfast, Cork, and Galway, I have the gratification of announcing an important increase in the number of the candidates for these distinctions above those of the classes of 1855 and 1856. Eleven students have passed the required examinations for the degree of Doctor of Medicine, and an equal number have passed the first medical examination preparatory to their proceeding in a future year to that for this degree. Nine have passed the examination for the degree of Master of Arts; twenty-seven have been considered qualified by the examiners for the degree of Bachelor in that Faculty, and three for that of Bachelor of Laws; one student is deemed worthy of our diploma of Elementary Law; one of that of Agriculture, and one of the diploma of Engineering; making altogether the number of sixty-five collegiate students, whose names are to be placed on the records of the University: a number considerably exceeding that of the highest former year, 1853, when forty-six were so presented, and more than double that of last year, which was only thirty-two. We have also on this occasion one candidate from Trinity College, for admission to the *ad eundem* degree of Doctor of Laws, and which the Senate has authorized me to confer upon him, pursuant to the powers of our University charter. As in former years, so in this, some candidates for degrees have not been successful. They are, however, few in number—two only of those who sought the degree of Doctor of Medicine, and three of the candidates for that of Bachelor of Arts; and, as has also occurred on previous occasions, several students (I believe twenty-eight in all), announced their intention of appearing as candidates for some of our degrees or diplomas, who have not finally taken their places before the examiners, but who, I hope, have only postponed their completing their academic career to the period of the next year's examinations. Of the students now before us, many have been successful in the separate examinations held for competition for honors in the various branches of classical and scientific learning specified in our ordinances. And I may, I think, looking to the general result, very fairly congratulate the University and the colleges on a marked improvement in their present condition, and future prosperity. On the last occasion when I had the honour of discharging this function of my office, I was struck by the circumstance that, as has again occurred at this time, which I have already noticed, a large number of students had sent in their names as intended candidates for degrees who did not afterwards come forward; and having heard opinions of thoughtful men, who were sincerely anxious for the prosperity of these institutions, that this, and generally the comparatively small number of the students of the colleges who became candidates for our degrees, arose from the too great pressure of the courses of study prescribed by our ordinances, at least in some parts of the collegiate period, and that changes were in that respect desirable, I felt it to be my duty on that occasion, when adverting to the small number of students—only eighteen—who then had passed for the first degree in Arts, to notice this opinion, and to state that the subject deserved consideration, with a view to the effecting suitable modifications in the ordinances, should it be found expedient to do so. The subject has, accordingly, undergone serious discussion and consideration among us; but it has appeared to the great majority of the Senate to be inexpedient at present to adopt any change. They are apprehensive that none could be made of sufficient importance which would not have the effect of excluding from our courses of University examination some branch of learning or science, the omission of which would seriously derogate from the high standard which it has been our object to establish for its degrees. Our ordinances, consequently, remain unaltered; and I am happy to find on the present occasion that, notwithstanding this decision, the number of our candidates has so much exceeded that of the classes of 1855 and 1856, as I have already had the gratification of announcing. In addition to this progress of the members of the University, I have great pleasure in noticing at this meeting the marked success of some of our students in the competitive examinations held for public departments. I allude more especially to three young gentlemen—Messrs. Beveridge, Bartley, and Smith, all students of the Queen's College of Belfast, who succeeded in obtaining appointments in the civil service of the East India Company, at examinations holden in last July, for those very important places. And I may fitly mention here that I believe it will be found that since the establishment of competitive examination for the public service, a larger proportion of the students of the Queen's Colleges, as compared with the actual number of the entire body of those students, has been successful in obtaining the appointments so competed for than in any other University. This success is of peculiar value in estimating the true quality of the education given to their students by the respective colleges. The degrees and honors of this University are sought and competed for by those students, as it were, among themselves, and might be said to give but a positive test of excellence resting on acquirements in courses of study which are almost uniform in the three colleges. In the competitive examinations for the public services, they encounter the students of other colleges and Universities; the test is comparative, and it is a trying one, and each college may justly feel honoured in the triumph of its successful student. Joining as I do in this feeling of gratification in the success of our students, I am not content, however, to look upon the advantages of the great principle of competitive examination merely as it may give opportunities of victory in the contest of schools, or enable one college or another—this University or that—to boast for the time the comparative success of its classes. Such exultation is natural, and the emulation thus excited affords an additional motive for exertion and diligence, as well on the part of the teachers as of the taught—but it is more worthy of us all

Appendix I.

Public Meeting.

to view this principle and its progressive development in a more generous light, as insuring to the service of the public the aid of learning and science, the cultivated intellect, and the enlightened genius. Casting aside, therefore, all jealousy of colleges or schools, let us rejoice in every accession thus obtained to the ranks of those engaged in the civil or military business of the State, in whatever university or college their studies may have been directed and pursued. Adverting for a little while to the numbers who have been candidates for degrees on this occasion, I may regard the amount as giving an answer to the apprehensions of those who have thought that our ordinances required modification in the direction I have alluded to, and a vindication of the decision of the Senate against any present change. We may, perhaps, find, on looking further into the matter, that other circumstances may account for the difference between the total numbers of the students of colleges and the average proportion of those who seek a University degree, as contrasted with the records of the older Universities. I may, I think, say generally, that to obtain a degree for its own sake is the main object of very many who enter those Universities, while to the students of the Queen's Colleges it is, comparatively speaking, of secondary importance. The degrees of this University are but rarely of value to candidates for holy orders in the Established Church, who form a very large proportion of the students of Oxford, Cambridge, and Dublin. Again, few of the students of our colleges are of the class who would seek admission to the legal profession, where degrees also are of some value; the great majority consisting, I believe, of young men to whom an early position in life in some scholastic or general pursuit is of much economical importance. Thus the classes of the colleges are very largely composed of students who enter them not so much for the sake of obtaining a degree by way of testimonial of their education, as in order to obtain that education itself, as a qualification for their being at as early a period as possible enabled thereby to seek and attain some present position and advancement in life. This is remarkably illustrated in the engineering classes of the colleges, which are, in general, numerously attended, and form most important schools. The number in the Cork College alone has exceeded forty in the present year, yet scarcely one of all those students becomes a candidate for the diploma of Engineering given by the University; the vast majority, I might almost say the whole, being taken away by obtaining active employment in the various appropriate services, for which the teaching of the college schools gives them a high standard of professional qualification. In acquiring, however, the full education given in the colleges, the diligent student in Arts who pursues his studies to the end becomes well fitted to attend the examination for a degree, and to attain it, and he comes forward accordingly. This class of candidates, therefore, may not unfitly, I believe, be considered as comprising the best of all the students of the respective colleges, and the degree becomes an honour to be attained by the highest and the few, rather than, as in other Universities, an easily acquired dignity, of essential utility to an enormous majority. I may further illustrate this view by a document which our Secretary has placed in my hands—an extract from the preface to a volume of "Edinburgh Essays" for the year 1856, in which, alluding to the designation of "Members of the University" of that city, it is observed that its degrees in Arts, conferring no academical privileges, are strictly Honors, and as a natural consequence attract few candidates; and a table is given of the numbers of students in Arts and graduates there in the years from 1852 to 1856, which represents them thus:—

In 1852,	843	students had only	11	Bachelors of Art.
In 1853,	795	,, ,,	9	,,
In 1854,	767	,, ,,	10	,,
In 1855,	789	,, ,,	12	,,
In 1856,	798	,, ,,	13	,,

Our numbers of graduates are far higher than these in proportion to those of our matriculated students (in the present year we have twenty-eight of the former out of 363 of the latter); but the same principle may be considered as acting, though with less effect, in narrowing our lists. The high standard of qualification generally possessed by the candidates for our degrees leads to another result very gratifying to the colleges and to the Senate, but which has been made in some hostile quarters the groundwork of unfavourable comments on our system of examinations. I allude to the number of honors and prizes which are distributed to those who, in addition to the ordinary examinations for degrees and diplomas, enter into competition for special rewards. To allot separate honors for competition in each important branch of learning and science pursued in the colleges is obviously just and inevitable, if any honors are to be awarded at all; and the attainment of those honors by so many of the graduates at each examination is but the result and the proof of the excellence of their collegiate studies and instruction. I feel bound to refer again to the success of our candidates in the competition for Indian appointments, and to do so in connexion with unhappy events too familiar to our ears. The topic calls before our minds the responsible duties, the high destinies perhaps which may be the lot of these youthful students, and of those with whom they will be associated in the future maintenance of British dominion in that distracted portion of the empire. We are now suddenly plunged for its preservation into the throes and agonies of the strangest and most awful conflict that ever in human memory has raged upon the wide surface of the globe. Every page of daily intelligence, every message that rushes on electric wings from the eastern world, is fraught with tidings of death and desolation, of horrors the most appalling. We tremble as we read, fearing that the next sentence may announce not only the loss of thousands of our countrymen and countrywomen, but the utter wreck of all the great fabric of dominion which we have been building up, in the vain hope of establishing peace and civilization in lands long torn by the cruelty and oppression of barbarian conquerors. While thousands of families are either pining in bitter affliction for the cruel destruction of near and dear ones, or listening with agonizing terror for some faint sound of assurance that those they love may yet be found among the living and the rescued: under this great pressure of public calamity and private misery, to do or think of aught save the arousing and display of all the energies of the realm, for the restoration of sovereignty and peace, or the practical direction of the means at our disposal to the relief of the dread mass of suffering in which such multitudes of the innocent and the helpless have been involved, seems almost to require an apology, and scarcely to admit of an excuse. There are, however, duties to be discharged amid all this absorbing weight of sympathy and sorrow, and in the success of which it is right we should rejoice. Such has been the duty of those by whom our students have been prepared for the service they have so honourably attained to; such is the duty we are to-day engaged in, and such is the duty of all who in university, academy, or school, are, or shall be engaged in training the youth of our country to the service and honour of the State, or the general business of active life, imbuing their minds with the severer learning, science, and knowledge of collegiate studies, or refining and adorning them by the more ornamental, but still honourable and useful teaching of the finer arts; and it is, I think, permitted to us more especially to rejoice in the prospect that from our colleges we are able to send forward to the duties of that Indian service, for which too much cannot now be done, men qualified to take their part in it with a sound preparation of requisite knowledge. I feel convinced, however, that this struggle must end in the triumph of British arms. But a great enterprise will remain to be undertaken, when the battle cry shall cease. The re-construction of an empire is perhaps now to be before these youthful servants of the eastern realms; and whatever task in this mighty work may be their allotted portion, I believe I may with confidence anticipate that they will perform it with advantage to the State, and with credit to themselves and to the college from which they have proceeded. Since we last met

on a like occasion the Senate has sustained a serious loss in the death of their late secretary, the lamented Robert Ball. Connected with the University from its commencement, Dr. Ball devoted to its service with the most conscientious zeal all the energies of a strong and highly-cultivated mind. He gave most valuable assistance in the development and completion of the internal arrangements of the University, and conducted the—at times laborious—details of our correspondence and examinations, with the most unwearied diligence and attention. Deeply sensible of its loss, the Senate has placed upon its records a resolution expressive of its high appreciation of his services, and of his exalted position in the world of science—conveying at the same time to his bereaved family its deep sympathy in their severe affliction. Occupying this place, and remembering but how short a time has elapsed since, in apparent health and vigour, he stood beside me in the Senate Hall, gladly assisting in the proceedings of the University, to which and to its interests he was so warmly attached, I may, I hope, be pardoned for introducing a momentary allusion to my own feelings of personal concern for the loss of a sincerely valued and lamented friend. I have still to regret that exigencies of important public duty in another part of the empire prevents our Chancellor, the Earl of Clarendon, from taking that part in the proceedings of the University on occasions like this, which I know it would be most gratifying to him to perform. His wishes are cordially and sincerely given to the success of these institutions, in the foundation of which he so zealously laboured while he resided among us, and he has very recently expressed to me his great concern that he cannot give so much time and attention as he would desire to do to the business of the University. In his absence I now proceed to confer upon the successful candidates their appropriate degrees and diplomas. The Lord Lieutenant, who has graciously honoured us with his presence, was pleased to take a part in the details of the proceedings of our last annual meeting, by distributing the medals and prizes awarded at the honor examinations. I have on this occasion also, on behalf of the Senate, solicited his Excellency to perform a similar office, and I have his permission accordingly to present to him the successful competitors, who, I have no doubt, will well appreciate the additional distinction thus attached to the distribution of their rewards.

The candidates were then called up in order, and the VICE-CHANCELLOR conferred upon each the degree or diploma which had been conferred by the Senate.

His Excellency the LORD LIEUTENANT was graciously pleased to distribute to those to whom prizes had been awarded the distinctions which they had won.

The business of the meeting having been brought to a close, the VICE-CHANCELLOR addressed his Excellency the Lord Lieutenant as follows :—

It remains for me to perform the very grateful task of returning to your Excellency the thanks of the Senate for the honour you have conferred on the University, and on the proceedings of this occasion, by your presence to-day, and by the part you have just been pleased to take in the business of our meeting, conducted as it has been by your kind permission in this noble and re-decorated hall. Looking back to the lists of candidates of the two preceding periods, it is most gratifying to me to be able at this time to present to your Excellency's notice so considerable an accession to the numbers of our graduates and competitors for honors, and I very gladly exchange the doubts and apprehensions of former years for the congratulations of the present, and the hopeful expectations of the future. We have as a very encouraging basis for such expectations the confident assurance of your Excellency's abiding regard for the prosperity and advancement of our colleges, and the warm and zealous interest you have ever shown in the great cause of united education. We look with the like confidence to your gracious sanction and assistance in carrying out any arrangement which experience may suggest to us as necessary for the perfection of our University ordinances. And we feel that in your Excellency's discharge of the responsible function of recommending to her Majesty the appointment of new officers, as professors in any of the colleges, we may always look to the most impartial exercise of a sound judgment, animated by a desire to advance the best interests of learning and science, and to promote the general and enlightened education of the youth of Ireland.

His Excellency the LORD LIEUTENANT then rose and said :—

Mr. Vice-Chancellor and Gentlemen, I am extremely glad not only to have again in this place the opportunity of meeting the authorities and professors of the Queen's University, and the youthful candidates for its degrees and honors, but also at the same time to be able to congratulate them all upon the circumstances which attend the present period of the annual examinations. It appears from the list before us, as well as from the interesting and lucid statement of your distinguished Vice-Chancellor, that the number of successful candidates has, on this occasion, culminated to a higher point than it has ever yet reached, and doubled that of last year. It appears, further, that out of seventy candidates there have been only five rejections, and I apprehend that any one who will take the trouble to make himself acquainted with the contents of the examination papers and the literary and intellectual tests that have been applied, will be amply satisfied that this increase in the number of successful candidates, and this paucity in the rejection of insufficient candidates, have been in no respect caused by any lowering of the standard of proficiency and success. I am tempted, also, to observe, what might not be so obvious at first sight—that even the amount of success, as well as of the attendance at these annual examinations, did not, in themselves, afford an accurate measure of the success of the college education itself. I am informed that there are many instances in which the education afforded in the colleges enables students to obtain employments which force them to leave part of their academical career unfinished. One of them, for instance, from the Queen's College, Galway, would have been here this day, had he not just obtained at a competitive examination the post of master of an agricultural school, with an annual salary of £120. Another from the same college has just been appointed usher of the great school of Dungannon. Why have we not here to-day Mr. Devereux, Mr. Bartley, and Mr. Smith? Why, because at the recent examination for the civil service of the East India Company, they have respectively obtained the first, the fourth, and the tenth places on that very distinguished list. And when we remember that the prizes of this Indian examination are of so high a character as to draw in the foremost men from all the Universities of the empire, I think any one who feels interested in the character and credit of the Queen's Colleges in Ireland, will feel no slight satisfaction, that whereas in former years two of those appointments were carried off by Cork, and one by Galway, in the present year three of them have fallen to Belfast. I am tempted by the mention of that place to remind my young friends here who come from it, that we must look to them as called upon in some measure to redeem, as well as to adorn, that celebrated and thriving community. It is very painful to find in these modern days of enlightenment and progress,—I must add, too, in these days of national emergencies and stern pressure,—an advanced and polished city like Belfast disfigured by unseemly exhibitions of religious discord, and, if such a violent contradiction in terms might be allowed, of religious hatred. We have heard, indeed, of Belfast as occasionally termed the Northern Athens, and I hope the future career of some whom I now see before me will do much to justify and secure, and perpetuate that title; but if we were only to give attention to some of the statements we have been lately perusing, the outbursts of strife and contention among those who ought to live as brothers, would make us think we were reading not so much the annals of Athens as of Thebes. One further point was touched upon with great feeling by the Vice-Chancellor, and suggested by the mention of the special sphere of action to which some of your old associates are on the point of being called, and whither, I hope, some more among you will follow them—

Appendix I. Public Meeting.

I mean the civil service of India. Other associations, alas! are now mingled with that name, besides those of peaceful duties quietly performed, and substantial fortunes comfortably amassed. All who are now sent to that stirring theatre, whatever may be the precise character of their mission, must be prepared for hardship, for danger, for much patient endurance, possibly for high-strung courage, at all events for sustained and strenuous exertions. In the great drama of Indian reconquest every one must play his allotted part to the top of his bent. And I fervently hope that among the honourable and enduring successes of the Queen's Colleges in Ireland, it may come to be recorded of them that the young men whom they will have trained for the business of active life, have borne a conspicuous and distinguished part in the great imperial task which now devolves upon us as a people, of restoring upon a firmer, a purer, a nobler basis than it ever yet rested on, the hold of civilized and Christian England upon the regained millions of India.

The assembly then separated.

Appendix II. Examination for the Degree of A.M. Group I.

Appendix II.

EXAMINATION PAPERS, 1857.

EXAMINATION FOR THE DEGREE OF A.M.

24th September, 1857.—*Morning.*

Latin.—*Examiner*, *Bunnell Lewis*, M.A.

Translate into English :—

(A.)—Horace—Epodes.

Altera iam teritur bellis civilibus aetas,
Suis et ipsa Roma viribus ruit :
Quam neque finitimi valuerunt perdere Marsi
Minacis aut Etrusca Porsenae manus,
Aemula nec virtus Capuae, nec Spartacus acer
Novisque rebus infidelis Allobrox,
Nec fera caerulea domuit Germania pube
Parentibusque abominatus Hannibal ;
Impia perdemus devoti sanguinis aetas,
Ferisque rursus occupabitur solum.
Barbarus heu cineres insistet victor et urbem
Eques sonante verberabit ungula,
Quaeque carent ventis et solibus ossa Quirini,
Nefas videre, dissipabit insolens.
Forte quid expediat communiter aut melior pars
Malis carere quaeritis laboribus :
Nulla sit hac potior sententia, Phocaeorum
Velut profugit exsecrata civitas
Agros atque Lares patrios habitandaque fana
Apris reliquit et rapacibus lupis,
Ire, pedes quocunque ferent, quocunque per undas
Notus vocabit aut protervus Africus.
Sic placet ? an melius quis habet suadere ? secunda
Ratem occupare quid moramur alite ?

(B.)—Ovid—Fasti. Book I.

Martis erat primus mensis, Venerisque secundus :
Haec generis princeps, ipsius ille pater :
Tertius a senibus, iuvenum de nomine quartus :
Quae sequitur, numero turba notata fuit.
At Numa nec Ianum nec avitas praeterit umbras,
Mensibus antiquis praeposuitque duos.
Ne tamen ignores variorum iura dierum,
Non habet officii lucifer omnis idem.
Ille nefastus erit, per quem tria verba silentur.
Fastus erit, per quem lege licebit agi.
Nec toto perstare die sua iura putaris :
Qui iam fastus erit, mane nefastus erat.
Nam simul exta deo data sunt, licet omnia fari,
Verbaque honoratus libera praetor habet.
Est quoque, quo populum ius est includere saeptis.
Est quoque, qui nono semper ab orbe redit.
Vindicat Ausonias Iunonis cura Kalendas.
Idibus alba Iovi grandior agna cadit.
Nonarum tutela deo caret. Omnibus istis . . .
Ne fallare cave . . . proximus ater erit.
Omen ab eventu est. illis nam Roma diebus
Damna sub averso tristia Marte tulit.
Haec mihi dicta semel, totis haerentia fastis,
Ne seriem rerum scindere cogar, erunt.

(C.)—Virgil—Eclogues.

Tum canit Hesperidum miratam mala puellam ;
Tum Phaëthontiadas musco circumdat amarae
Corticis, atque solo proceras erigit alnos.
Tum canit, errantem Permessi ad flumina Gallum
Aonas in montes ut duxerit una sororum,
Utque viro Phoebi chorus adsurrexerit omnis ;
Ut Linus haec illi divino carmine pastor,
Floribus atque apio crines ornatus amaro,
Dixerit "Hos tibi dant calamos, en accipe, Musae,
"Ascraeo quos ante seni, quibus ille solebat
"Cantando rigidas deducere montibus ornos.
"His tibi Grynei nemoris dicatur origo,
"Ne quis sit lucus, quo se plus iactet Apollo."
Quid loquar aut Scyllam Nisi, quam fama secuta est
Candida succinctam latrantibus inguina monstris
Dulichias vexasse rates, et gurgite in alto
Ah, timidos nautas canibus lacerasse marinis ;
Aut ut mutatos Terei narraverit artus :
Quas illi Philomela dapes, quae dona pararit,
Quo cursu deserta petiverit, et quibus ante
Infelix sua tecta supervolitaverit alis ?
Omnia quae, Phoebo quondam meditante, beatus
Audiit Eurotas iussitque ediscere lauros,
Ille canit ; pulsae referunt ad sidera valles,
Cogere donec oves stabulis numerumque referre
Iussit, et invito processit Vesper Olympo.

(D.)—Plautus—Trinummus.

ST. Stasime, fac te propere celerem, recipe te ad dominum domum,
Ne subito metus exoriatur scapulis stultitia tua.
Adde gradum, adpropera : iam dudum factumst quom abisti domo.
Caue sis tibi ne bubuli in te cottabi crebri crepent,
Si aberis ab eri quaestione : ne destiteris currere.
Ecce hominem te, Stasime, nihili : satin' in thermopolio
Condalium es oblitus, postquam thermopotasti gutturem ?
Recipe te et recurre petere re recenti. CH. Huic, quisquis est,
Gurguliost exercitor, is hominem hunc cursuram docet.
ST. Quid, homo nihili, non pudet te ? tribusne te poteriis
Memoriae esse oblitum ? an uero, quia tu cum frugi hominibus
Ibi bibisti, qui ab alieno facile cohiberent manus,
Inter eosne homines condalium te redipisci postulas ?
Chiruchus fuit, Cerconicus, Crimnus, Cricolabus, Collabus,
Collicrepidae, cruricrepidae, ferriteri, mastigiae :
Quorum hercle unus surpuerit currenti cursori solum.
CH. Ita me di ament, graphicum furem. ST. Quid ego quod periit petam ?
Nisi etiam laborem ad damnum adponam epithecam insuper.
Quin tu quod periit perisse ducis ? cape uorsoriam :
Recipe te ad erum. CH. Non fugitiuost hic homo : conmeminit domi.
ST. Vtinam ueteres hominum mores, ueteres parsimoniae
Potius in maiore honore hic essent quam mores mali.
CH. Di inmortales, basilica hic quidem facinora inceptat loqui :
Vetera quaerit, uetera amare hunc more maiorum scias.
ST. Nam nunc mores nihili faciunt quod licet nisi quod lubet.
Ambitio iam more sanctast, liberast a legibus :
Scuta iacere fugereque hostis more habent licentiam :

Petere honorem pro flagitio more fit. CH. Morem inprobum.

ST. Strenuos nunc praeterire more fit. CH. Nequam quidem.

1. Explain the historical allusions in the extract (A).

2. Give the chief rules for the order of words in a Latin sentence.

3. What reasons are there for believing that the Latin language is as old as the Greek?

4. Show that philological researches have thrown much light on the early history of Italy.

5. Write a chronological list of the Roman authors who flourished in the Golden Age, and designate each of them.

6. Describe the metres used by Horace in his Odes; give examples, with the feet divided, and the quantities marked.

7. Derive the following words:—palam, nudiustertius, dextans, lapillus, plus, benignus, pomœrium.

24th September, 1857.—*Afternoon.*

LATIN.—*Examiner*, *Bunnell Lewis*, M.A.

Translate into English:—

(A.)—SUETONIUS—AUGUSTUS.

Testamentum, L. Planco, C. Silio consulibus, tertio Nonas Aprilis, ante annum et quatuor menses, quam decederet, factum ab eo, ac duobus codicibus, partim ipsius, partim libertorum Polybii et Hilarionis manu scriptum, depositumque apud se, virgines Vestales, cum tribus signatis aeque voluminibus, protulerunt: quae omnia in senatu aperta atque recitata sunt. Haeredes instituit primos, Tiberium ex parte dimidiâ et sextante, Liviam ex parte tertiâ, quos et ferre nomen suum jussit; secundos, Drusum, Tiberii filium, ex triente; ex partibus reliquis Germanicum liberosque ejus tres sexûs virilis; tertio gradu, propinquos amicosque complures. Legavit populo Romano quadringenties, tribubus tricies quinquies sestertium: praetorianis militibus singula millia nummorum, cohortibus urbanis quingenos, legionariis trecenos nummos: quam summam repraesentari jussit; nam et confiscatam semper repositamque habuerat. Reliqua legata varie dedit: produxitque quaedam ad vicies sestertium, quibus solvendis annuum diem finiit, excusatâ rei familiaris mediocritate; nec plus perventurum ad haeredes suos, quam millies et quingenties, professus; quamvis, viginti proximis annis, quaterdecies millies ex testamentis amicorum percepisset; quod paene omne, cum duobus paternis patrimoniis, caeterisque haereditatibus, in rempublicam absumsisset. Julias, filiam neptemque, si quid his accidisset, vetuit sepulcro suo inferri. De tribus voluminibus uno mandata de funere suo complexus est; altero indicem rerum a se gestarum, quem vellet incidi in aeneis tabulis, quae ante Mausoleum statuerentur; tertio breviarium totius imperii; quantum militum sub signis ubique essent, quantum pecuniae in aerario et fiscis et vectigaliorum residuis. Adjecit et libertorum servorumque nomina, a quibus ratio exigi posset.

(B.)—CICERO—LETTERS TO ATTICUS.

De republica quid ego tibi subtiliter? Tota periit atque hoc est miserior, quam reliquisti, quod tum videbatur eius modi dominatio civitatem oppressisse, quae iucunda esset multitudini, bonis autem ita molesta, ut tamen sine pernicie: nunc repente tanto in odio est omnibus, ut quorsus eruptura sit horreamus. Nam iracundiam atque intemperantiam illorum sumus experti, qui Catoni irati omnia perdiderunt. Sed ita lenibus uti videbantur venenis, ut posse videremur sine dolore interire. Nunc vero sibilis vulgi, sermonibus honestorum, fremitu Italiae vereor ne exarserint. Equidem sperabam, ut saepe etiam loqui tecum solebam, sic orbem rei publicae esse conversum, ut vix sonitum audire, vix impressam orbitam videre possemus, et fuisset ita, si homines transitum tempestatis exspectare potuissent, sed quum diu occulte suspirassent, postea iam gemere, ad extremum vero loqui omnes et clamare coeperunt. Itaque ille amicus noster, insolens infamiae, semper in laude versatus, circumfluens gloria, deformatus corpore, fractus animo, quo se conferat nescit: progressum praecipitem, inconstantem videt: bonos inimicos habet, improbos ipsos non amicos. Ac vide mollitiem animi. Non tenui lacrimas, quum illum a.d. VIII. Kal. Sext. vidi de edictis Bibuli contionantem. Qui antea solitus esset iactare se magnificentissime illo in loco, summo cum amore populi, cunctis faventibus, ut ille tum humilis, ut demissus erat, ut ipse etiam sibi, non iis solum, qui aderant, displicebat! O spectaculum uni Crasso iucundum, caeteris non item! nam, quia deciderat ex astris, lapsus quam progressus potius videbatur et, ut Apelles si Venerem aut si Protogenes Ialysum illum suum coeno oblitum videret, magnum, credo, acciperet dolorem, sic ego hunc omnibus a me pictum et politum artis coloribus subito deformatum non sine magno dolore vidi. Quamquam nemo putabat propter Clodianum negocium me illi amicum esse debere, tamen tantus fuit amor, ut exhauriri nulla posset iniuria. Itaque Archilochia in illum edicta Bibuli populo ita sunt iucunda, ut eum locum, ubi proponuntur, prae multitudine eorum, qui legunt, transire nequeam, ipsi ita acerba, ut tabescat dolore, mihi mehercule molesta, quod et eum, quem semper dilexi, nimis excruciant et timeo tam vehemens vir tamque acer in ferro et tam insuetus contumeliae ne omni animi impetu dolori et iracundiae pareat. Bibuli qui sit exitus futurus nescio. Ut nunc res se habet, admirabili gloria est. Quin quum comitia in mensem Octobrem distulisset, quod solet ea res populi voluntatem offendere, putarat Caesar oratione sua posse impelli contionem, ut iret ad Bibulum: multa quum seditiosissime diceret, vocem exprimere non potuit. Quid quaeris? Sentiunt se nullam ullius partis voluntatem tenere: eo magis vis nobis est timenda. Clodius inimicus est nobis. Pompeius confirmat eum nihil esse facturum contra me. Mihi periculosum est credere: ad resistendum me paro. Studia spero me summa habiturum omnium ordinum. Te quum ego desidero, tum vero res ad tempus illud vocat. Plurimum consilii, animi, praesidii denique mihi, si te ad tempus videro, accesserit. Varro mihi satis facit: Pompeius loquitur divinitus. Spero nos aut cum summa gloria etiam aut certe sine molestia discessuros. Tu quid agas, quem ad modum te oblectes, quid cum Sicyoniis egeris ut sciam cura.

(C.)—LIVY—BOOK XXXIV.

"Si in sua quisque nostrum matre familiae, Quirites, ius et maiestatem viri retinere instituisset, minus cum universis feminis negotii haberemus: nunc domi victa libertas nostra impotentia muliebri hic quoque in foro obteritur et calcatur, et quia singulas sustinere non potuimus, universas horremus. Equidem fabulam et fictam rem ducebam esse virorum omne genus in aliqua insula coniuratione muliebri ab stirpe sublatum esse. Ab nullo genere non summum periculum est, si coetus et concilia et secretas consultationes esse sinas. Atque ego vix statuere apud animum meum possum, utrum peior ipsa res an peiore exemplo agatur. Quorum alterum ad nos consules reliquosque magistratus, alterum ad vos, Quirites, magis pertinet. Nam utrum e re pubsit necne id quod ad vos fertur, vestra existimatio est, qui in suffragium ituri estis. Haec consternatio muliebris, sive sua sponte sive auctoribus vobis, M. Fundani et L. Valeri, facta est, haud dubie ad culpam magistratuum pertinens nescio vobis, tribuni, an consulibus magis sit deformis. Vobis, si ad feminas concitandas tribunicias seditiones iam adduxistis; nobis, si ut plebis quondam, sic nunc mulierum secessione leges accipiendae sunt. Equidem non sine rubore quodam paulo ante per medium agmen mulierum in forum perveni. Quod nisi me verecundia singularum magis maiestatis et pudoris quam universarum tenuisset, ne compellatae a consule viderentur, dixissem" "qui hic mos est in publicum procurrendi, et obsidendi vias, et viros alienos appellandi? istud ipsum suos quaeque domi rogare non potuistis? an blandiores in publico quam in privato, et alienis quam vestris estis? quamquam ne domi quidem vos, si sui iuris finibus matronas contineret pudor, quae leges hic rogarentur abrogarenturve curare decuit." "Maiores nostri nullam, ne privatam quidem rem agere

Appendix II.

Examination for the Degree of A.M.

Group I.

feminas sine tutore auctore voluerunt; in manu esse parentium, fratrum, virorum: nos, si diis placet, iam etiam rem publicam capessere eas patimur et foro quoque et contionibus et comitiis immisceri. Quid enim nunc aliud per vias et compita faciunt quam rogationem tribunorum plebi suadent, aliam legem abrogandam censent? date frenos impotenti naturae et indomito animali, et sperate ipsas modum licentiae facturas, nisi vos feceritis. Minimum hoc eorum est quae iniquo animo feminae sibi aut moribus aut legibus iniuncta patiuntur. Omnium rerum libertatem, immo licentiam, si vere dicere volumus, desiderant. Quid enim, si hoc expugnaverint, non temptabunt?"

Translate into Latin prose:—

Wisdom instructs us to examine, compare, and rightly to value the objects that court our affections and challenge our care, and thereby regulates our passions, and moderates our endeavours, which begets a pleasant serenity and peaceable tranquillity of mind. For when being deluded with false shows, and relying upon ill-grounded presumptions, we highly esteem, passionately affect, and eagerly pursue things of little worth in themselves or concernment to us, as we unhandsomely prostitute our affections, and prodigally misspend our time, and vainly lose our labour; so the event not answering our expectation, our minds thereby are confounded, disturbed, and distempered. But when guided by right reason, we conceive great esteem of, and zealously are enamoured with, and vigorously strive to attain, things of excellent worth, and weighty consequence; the conscience of having well placed our affections, and well employed our pains, and the experience of fruits corresponding to our hopes, ravishes our mind with inexpressible content. And so it is: present appearance and vulgar conceit ordinarily impose upon our fancies, disguising things with a deceitful varnish, and representing those that are vainest with the greatest advantage; whilst the noblest objects, being of a more subtile and spiritual nature, like fairest jewels enclosed in a homely box, avoid the notice of gross sense, and pass undiscerned by us. But the light of wisdom, as it unmasks specious imposture, and bereaves it of its false colours, so it penetrates into the retirements of true excellency, and reveals its genuine lustre.

1. Express in English money the sums mentioned in extract (A).
2. Write explanatory notes on extract (B).
3. Give some proofs of the decline of art and literature under the later emperors.
4. Draw a map of ancient Rome; mark in it the Pantheon, the Prætorian Camp, the Baths of Titus, the Colosseum, the Circus Maximus, and the Mausoleum of Augustus.
5. Give a sketch of the ethical and physical philosophy of Epicurus, with references to Lucretius.

24th September, 1857.—*Morning.*

Greek.—*Examiner, Charles MacDouall*, A.M.

I.—Translate, in verse or prose, *any two* of the following passages:—

1. From the Homeric *Hymn to Hermes*, vv. 513–540, 550–566.

Καὶ τότε Λητοΐδης Ἑρμῆν πρὸς μῦθον ἔειπεν·
"Δείδια, Μαιάδος υἱέ, διάκτορε, ποικιλομῆτα!
μή μοι ἅμα κλέψῃς κίθαριν καὶ καμπύλα τόξα.
τιμὴν γὰρ πὰρ Ζηνὸς ἔχεις, ἐπαμοίβιμα ἔργα
θήσειν ἀνθρώποισι κατὰ χθόνα πουλυβότειραν.
ἀλλ' εἴ μοι τλαίης γε θεῶν μέγαν ὅρκον ὀμόσσαι,
ἢ κεφαλήν, νεύσας, ἠὲ Στυγὸς ὄβριμον ὕδωρ,
πάντ' ἂν ἐμῷ θυμῷ κεχαρισμένα καὶ φίλα ῥέζειν!"
Καὶ τότε Μαιάδος υἱὸς ὑποσχόμενος κατένευσεν,
μή ποτ' ἀποκλέψειν, ὅσ' Ἑκηβόλος ἐκτεάτισται,
μηδέ ποτ' ἐμπελάσειν πυκινῷ δόμῳ. αὐτὰρ Ἀπόλλων
Λητοΐδης κατένευσεν ἐπ' ἀρθμῷ καὶ φιλότητι,
μή τινα φίλτερον ἄλλον ἐν ἀθανάτοισιν ἔσεσθαι,
μήτε θεὸν μήτ' ἄνδρα. "Διὸς γόν'! ἐμοί σε τέλειον
σύμβολον ἀθανάτων ποιήσομαι ἤδη ἁπάντων
πιστότατον θυμῷ καὶ τίμιον· αὐτὰρ ἔπειτα
ὄλβου καὶ πλούτου δώσω περικαλλέα ῥάβδον,
χρυσείην, τριπέτηλον, ἀκήριον, ἥ σε φυλάξει,
πᾶν τοι ἐπικραίνουσα τέλος ἐπέων τε καὶ ἔργων.
μαντείην δέ, φέριστε, Διοτρεφές, ἣν ἐρεείνεις,
τῶν ἀγαθῶν, ὅσα φημὶ δαήμεναι ἐκ Διὸς ὀμφῆς,
οὔτε σὲ θέσφατόν ἐστι δαήμεναι οὔτε τιν' ἄλλον
ἀθανάτων· τὰ γὰρ οἶδε Διὸς νόος· αὐτὰρ ἔγωγε
πιστωθεὶς κατένευσα, καὶ ὤμοσα καρτερὸν ὅρκον,
μή τινα νόσφιν ἐμεῖο θεῶν ἀειγενετάων
ἄλλον γ' εἴσεσθαι Ζηνὸς πυκινόφρονα βουλήν.
καὶ σύ, κασίγνητε, χρυσόῤῥαπι! μή με κέλευε
θέσφατα πιφαύσκειν, ὅσα μήδεται εὐρύοπα Ζεύς.
* * * * * * * *
ἄλλο δέ τοι ἐρέω, Μαίης ἐρικυδέος υἱέ·
Θριαὶ γάρ τινές εἰσι, κασίγνηται γεγανῖαι,
παρθένοι ὠκείῃσιν ἀγαλλόμεναι πτερύγεσσιν,
. . . . . .
μαντείης ἀπάνευθε διδάσκαλοι, ἣν ἐπὶ βουσὶν
παῖς ἔτ' ἐὼν μελέτησα· πατὴρ δ' ἐμὸς οὐκ ἀλέγυνεν.
ἐντεῦθεν δὴ ἔπειτα, ποτώμεναι ἄλλοτ' ἐπ' ἄλλῃ,
κηρία βόσκονται καὶ ἐπικραίνουσιν ἕκαστα.
αἱ δ', ὅτε μὲν θυΐωσιν ἐδηδυῖαι μέλι χλωρόν,
προφρονέως ἐθέλουσιν ἀληθείην ἀγορεύειν·
ἢν δ' ἀπονοσφισθῶσι θεῶν ἠδεῖαν ἐδωδήν,
πειρῶνται δὴ ἔπειτα παρὲξ ὁδὸν ἠγεμονεύειν.
τάς τοι ἔπειτα δίδωμι· σὺ δ' ἀτρεκέως ἐρεείνων
σὴν αὐτοῦ φρένα τέρπε· καί, εἰ δεδάοις βροτὸν ἄνδρα,
πολλάκι σῆς ὀμφῆς ἐπακούσεται, αἴ κε τύχῃσιν."

2. From the XIIIth *Olympic Ode* of Pindarus, vv. 1–46.

Τρισολυμπιονίκαν Στρ. α'
ἐπαινέων οἶκον ἄμερον ἀστοῖς,
ξένοισι δὲ θεράποντα, γνώσομαι
τὰν ὀλβίαν Κόρινθον, Ἰσθμίου
πρόθυρον Ποτειδᾶνος, ἀγλαόκουρον.
ἐν τᾷ γὰρ Εὐνομία ναίει, κασίγνηταί τε, βάθρον πολίων ἀσφαλές,
Δίκα καὶ ὁμότροπος Εἰράνα, ταμίαι ἀνδράσι πλούτου,
χρύσεαι παῖδες εὐβούλου Θέμιτος·

ἐθέλοντι δ' ἁλέξειν Ἀντ. α'.
Ὕβριν, Κόρου ματέρα θρασύμυθον.
ἔχω καλά τε φράσαι, τόλμα τέ μοι
εὐθεῖα γλῶσσαν ὀρνύει λέγειν.
ἄμαχον δὲ κρύψαι τὸ συγγενὲς ἦθος.
ὔμμιν δέ, παῖδες Ἀλάτα, πολλὰ μὲν νικαφόρον ἀγλαΐαν ὥπασαν
ἄκραις ἀρεταῖς ὑπερελθόντων ἱεροῖς ἐν ἀέθλοις,
πολλὰ δ' ἐν καρδίαις ἀνδρῶν ἔβαλον

Ὧραι πολυάνθεμοι ἀρχαῖα σοφίσμαθ'· ἄπαν δ' εὐρόντος ἔργον.
ταὶ Διωνύσου πόθεν ἐξέφανεν [Ἐπ. α'.
σὺν βοηλάτᾳ χάριτες διθυράμβῳ;
τίς γὰρ ἱππείοις ἐν ἔντεσσιν μέτρα,
ἢ θεῶν ναοῖσιν οἰωνῶν βασιλέα δίδυμον
ἐπέθηκ'; ἐν δὲ Μοῖσ' ἀδύπνοος,
ἐν δ' Ἄρης ἀνθεῖ νέων οὐλίαις αἰχμαῖσιν ἀνδρῶν.

ὕπατ' εὐρὺ ἀνάσσων Στρ. β'.
Ὀλυμπίας, ἀφθόνητος ἔπεσσιν
γένοιο χρόνον ἅπαντα, Ζεῦ πάτερ!
καὶ τόνδε λαὸν ἁβλαβῆ νέμων
Ξενοφῶντος εὔθυνε δαίμονος οὖρον·
δέξαι δέ οἱ στεφάνων ἐγκώμιον τεθμόν, τὸν ἄγει πεδίων ἐκ Πίσας
πεντάθλῳ ἅμα σταδίου νικῶν δρόμον· ἀντεβόλησεν
τῶν ἀνὴρ θνατὸς οὔπω τις πρότερον.

δύο δ' αὐτὸν ἔρεψαν Ἀντ. β'.
πλόκοι σελίνων ἐν Ἰσθμιάδεσσιν
φανέντα, Νέμεά τ' οὐκ ἀντιξοεῖ.
πατρὸς δὲ Θεσσαλοῦ ἐπ' Ἀλφεοῦ
ῥεέθροισιν αἴγλα ποδῶν ἀνάκειται,
Πυθοῖ τ' ἔχει σταδίου τιμὰν διαύλου θ' ἁλίῳ ἅμφ' ἐνί, μηνός τέ οἱ
τωὐτοῦ κραναΐς ἐν Ἀθάναισι τρία ἔργα ποδαρκὴς
ἀμέρα θῆκε κάλλιστ' ἀμφὶ κόμαις,

Ἑλλώτια δ' ἑπτάκις· ἐν δ' ἀμφιάλοισι Ποτειδᾶνος τεθμοῖσιν Ἐπ.β.
Πτοιοδώρῳ σὺν πατρὶ μακρότεραι
Τερψίᾳ θ' ἕσπονθ' Ἑριτίμῳ τ' ἀοιδαί.
ὅσσα δ' ἐν Δελφοῖσιν ἀριστεύσατε
ἠδὲ χόρτοις ἐν λέοντος, δηρίομαι πολέσιν
περὶ πλήθει καλῶν, ὡς μὰν σαφὲς
οὐκ ἂν εἰδείην λέγειν ποντιᾶν ψάφων ἀριθμόν.

3. From *Choephoroi* of ÆSCHYLUS, vv. 960–993.

ΟΡΕΣΤΗΣ. ἴδεσθε χώρας τὴν διπλῆν τυραννίδα
πατροκτόνους τε δωμάτων πορθήτορας.
σεμνοὶ μὲν ἦσαν ἐν θρόνοις τόθ' ἥμενοι,
φίλοι δὲ καὶ νῦν, ὡς ἐπεικάσαι πάθη
πάρεστιν, ὅρκος τ' ἐμμένει πιστώμασιν.
ξυνώμοσαν μὲν θάνατον ἀθλίῳ πατρὶ
καὶ ξυνθανεῖσθαι· καὶ τάδ' εὐόρκως ἔχει.
ἴδεσθε δ' αὖτε, τῶνδ' ἐπήκοοι κακῶν!
τὸ μηχάνημα, δεσμὸν ἀθλίῳ πατρί,
πέδας τε χειροῖν καὶ ποδοῖν ξυνωρίδα.
τί νιν προσείπω, κἂν τύχω μάλ' εὐστομῶν;
ἄγρευμα θηρός, ἢ νεκροῦ ποδένδυτον
δροίτης κατασκήνωμα; δίκτυον μὲν οὖν
τοιοῦτον ἂν κτήσαιτο φηλήτης ἀνὴρ
ξένων ἀπαιόλημα, κἀργυροστερῆ
βίον νομίζων τῷδέ τἂν δολώματι
πολλοὺς ἀναιρῶν πολλὰ θερμαίνοι φρένα.
ἐκτείνατ' αὐτὸ καὶ κύκλῳ παρασταδὸν
στέγαστρον ἀνδρὸς δείξαθ', ὡς ἴδῃ πατήρ,
οὐχ οὗμος, ἀλλ' ὁ πάντ' ἐποπτεύων τάδε
Ἥλιος, ἄναγνα μητρὸς ἔργα τῆς ἐμῆς,
ὡς ἂν παρῇ μοι μάρτυς ἐν δίκῃ ποτέ,
ὡς τόνδ' ἐγὼ μετῆλθον ἐνδίκως μόρον
τὸν μητρός· Αἰγίσθου γὰρ οὐ λέγω μόρον·
ἔχει γὰρ αἰσχυντῆρος, ὡς νόμος, δίκην·
ἥτις δ' ἐπ' ἀνδρὶ τοῦτ' ἐμήσατο στύγος,
ἐξ οὗ τέκνων ἤνεγχ' ὑπὸ ζώνην βάρος,
φίλον τέως, νῦν δ' ἐχθρόν, ὡς φαίνει, κακόν,
ἦ σοι δοκεῖ, μίραινά γ' εἶτ' ἔχιδν' ἔφυ,
σήπειν θιγοῦσ' ἂν μᾶλλον, οὐ δεδηγμένη,
τόλμης ἔκατι κἀκδίκου φρονήματος;
τοιάδ' ἐμοὶ ξύνοικος ἐν δόμοισι μὴ
γένοιτ'! ὀλοίμην πρόσθεν ἢ θεῶν ἅπαις!

4. From the *Wasps* of ARISTOPHANES, vv. 1071–1090, 1101–1121.

ΧΟΡΟΣ εἴ τις ὑμῶν, ὦ θεαταί! τὴν ἐμὴν ἰδὼν φύσιν
εἶτα θαυμάζει μ' ὀρῶν μέσον διεσφηκωμένον,
ἥτις ἐστὶν ἡ' πίνοια τῆσδε τῆς ἐγκεντρίδος
ῥᾳδίως ἐγὼ διδάξω, κἂν ἀμουσος ᾖ τὸ πρίν.
ἐσμὲν ἡμεῖς, οἷς πρόσεστι τοῦτο τὐρροπύγιον,
Ἀττικοὶ μόνοι δικαίως εὐγενεῖς αὐτόχθονες,
ἀνδρικώτατον γένος καὶ πλεῖστα τήνδε τὴν πόλιν
ὠφελῆσαν ἐν μάχαισιν, ἡνίκ' ἦλθ' ὁ βάρβαρος,
τῷ κατωφῷ τύφων ἅπασαν τὴν πόλιν καὶ πυρπολῶν,
ἐξελεῖν ἡμῶν μενοινῶν πρὸς βίαν τἀνθρήνια.
εὐθέως γὰρ ἐκδραμόντες, σὺν δόρει σὺν ἀσπίδι,
ἐμαχόμεσθ' αὐτοῖσι, θυμὸν ὀξίνην πεπωκότες,
στὰς ἀνὴρ παρ' ἄνδρ', ὑπ' ὀργῆς τὴν χελύνην ἐσθίων·
ὑπὸ δὲ τῶν τοξευμάτων οὐκ ἦν ἰδεῖν τὸν οὐρανόν.
ἀλλ' ὅμως ἐωσάμεσθα ξὺν θεοῖς πρὸς ἑσπέραν·
γλαῦξ γὰρ ἡμῶν πρὶν μάχεσθαι τὸν στρατὸν διέπτατο,
εἶτα δ' ἐσπόμεσθα θυννάζοντες εἰς τοὺς θυλάκους·
οἱ δ' ἔφευγον τὰς γνάθους καὶ τὰς ὀφρῦς κεντούμενοι·
ὥςτε παρὰ τοῖς βαρβάροισι πανταχοῦ καὶ νῦν ἔτι
μηδὲν Ἀττικοῦ καλεῖσθαι σφηκὸς ἀνδρικώτερον.
* * * * * * * * *
πολλαχοῦ σκοποῦντες ἡμᾶς εἰς ἄπανθ' εὑρήσετε
τοὺς τρόπους καὶ τὴν δίαιταν σφηξὶν ἐμφερεστάτους.
πρῶτα μὲν γὰρ οὐδὲν ἡμῶν ζῷον ἠρεθισμένον
μᾶλλον ὀξύθυμόν ἐστιν οὐδὲ δυσκολώτερον·
εἶτα τἄλλ' ὅμοια πάντα σφηξὶ μηχανώμεθα.
ξυλλεγέντες γὰρ καθ' ἑσμούς, ὥςπερεὶ τἀνθρήνια,
οἱ μὲν ἡμῶν οὔπερ ἄρχων, οἱ δὲ παρὰ τοὺς ἕνδεκα,
οἱ δ' ἐν ᾠδείῳ δικάζουσ', οἱ δὲ πρὸς τοῖς τειχίοις
ξυμβεβυσμένοι, πυκνὸν νεύοντες εἰς τὴν γῆν, μόλις
ὥςπερ οἱ σκώληκες ἐν τοῖς κυττάροις κινούμενοι·
ἔς τε τὴν ἄλλην δίαιταν ἐσμὲν εὐπορώτατοι·
πάντα γὰρ κεντοῦμεν ἄνδρα κἀκπορίζομεν βίον.
ἀλλὰ γὰρ κηφῆνες ἡμῖν εἰσὶν ἐγκαθήμενοι,
οὐκ ἔχοντες κέντρον, οἳ μένοντες ἡμῶν τοῦ φόρου
τὸν γόνον κατεσθίουσιν οὐ ταλαιπωρούμενοι.
τοῦτο δ' ἔστ' ἄλγιστον ἡμῖν, ἤν τις ἀστράτευτος ὢν
ἐκφορῇ τὸν μισθὸν ἡμῶν, τῆσδε τῆς χώρας ὕπερ
μήτε κώπην μήτε λόγχην μήτε φλύκταιναν λαβών.
ἀλλ' ἐμοὶ δοκεῖ τὸ λοιπὸν τῶν πολιτῶν ἔμβραχυ,
ὅστις ἂν μὴ 'χῃ τὸ κέντρον, μὴ φέρειν τριώβολον.

II.—Answer as many as you can of the questions which follow :—

1. (*a*) In what connexion is a "Homeric Hymn" cited by Thucydides? (*b*) Give its title, and state why it is now believed to be made up of two distinct lays.

2. (*a*) Why are the shorter Hymns called *προοίμια*? (*b*) In what sense has that title been considered defensible in application even to the longer ones?

3. (*a*) By what English poet has the Hymn to Hermes been most happily translated? (*b*) Vindicate its unity by briefly unfolding its scope.

4. (*a*) Analyse the Pindaric dialect, accounting for the various elements which enter into its composition. (*b*) Show in what respects, and on what principles, this dialect is partially—and but partially—represented by the lyric portions of Attic Tragedy. (*c*) Compare, in the same way, with the metrical structure of the Pindaric Odes, that of the antistrophic chants of a Tragic Chorus.

5. Briefly state and criticise the principles of interpretation applied to the Odes of Pindarus by Böckh and Dissen.

6. Specify (*a*) the greater games of Hellas, with the prizes awarded in each; and (*b*) such of the less famous games as you remember to be referred to by Pindarus in his *epinicia*.

7. (*a*) Name the reputed inventors or early improvers of the *διθύραμβος* or *κύκλιος χορός*, the *χορὸς τετράγωνος* or *τραγικός*, the *κῶμος* or *κωμῳδία*: and (*b*) mention the prizes which are said to have been originally attached to each.

8. Name, in chronological order, (*a*) the extant plays of the three great tragedians, and (*b*) those of Aristophanes.

9. (*a*) Discriminate the Old, the Middle, and the New Comedy. (*b*) Describe the *παράβασις*, naming its component parts,—mention the extant comedies of Aristophanes in which it is wanting,—and explain how it fell into desuetude.

10. Limit the meaning of the law *περὶ τοῦ μὴ ὀνομαστὶ κωμῳδεῖν*.

11. (*a*) Describe the costume of the choristers in the *Wasps;* and (*b*) account for the origin of such odd masquerades.

12. (*a*) What attributes, real or supposed, of the *Styx*, induced the Arcadian Pelasgi to make it the sanction of their oaths? (*b*) What mythical reason is given for its being imprecated by the gods likewise? Refer to Homeric and Hesiodean notices.

13. (*a*) Can you illustrate, from other classical myths, or from fairy tales, such an evasion of an engagement between two deities as is suggested in the first extract? (*b*) In connexion with the *Θριαί* explain and adduce variations of the line,

πολλοὶ θριοβόλοι, παῦροι δέ τε μάντιες ἄνδρες.

14. (*a*) Show how mythical conceptions varied in regard to both the number and the functions (physical or moral) of the Ὧραι. (*b*) Mention the number and the names of the *ὧραι*, or seasons of the year, in Homeric usage,—in early Attic,—and in later writings. (*c*) Trace, historically, the senses of the word *ὥρα*, from the oldest to the most recent.

15. Elucidate the inventions,—especially the architectural one,—ascribed to Corinthian genius in the second extract.

16. Elucidate the localities of the Athenian courts referred to in the fourth extract.

17. (*a*) Quote phrases parallel to *ἐπ' ἀρθμῷ καὶ φιλότητι*,—*εὔθυνε δαίμονος οὖρον*,—*Ὕβριν Κόρου ματέρα*. (*b*) Where, and with what reference, is it said—

τοὶ δ' ὥςτε θύννους ἤ τιν' ἰχθύων βόλον,
ἔπαιον, ἐῤῥάχιζον?

APPENDIX II.

Examination for the Degree of A.M.

Group I.

(*c*) Explain the admonition, *τῇ χειρὶ σπείρειν, ἀλλὰ μὴ ὅλῳ τῷ θυλάκῳ*. By whom, and to whom, is it said to have been originally given?

18. Derive, and explain the formation of *τεθμόν, ἀρθμῷ, ἐσμούς, κυττάροις, ὀξίνην, φλύκταινα, φηλήτης, ξυνωρίδα, ἐγκώμιον, διάκτορε, ἀπαιόλημα, πυκινῷ, ὄβριμον, οὐλίαις, φέριστε, ἐπήκοοι, ἀκήριον, δίαυλον, τριώβολον, θέσφατον, ποδένδυτον, διθυράμβῳ, ἐγκεντρίς, βοηλάτα, τἀνθρήνια, τοὔρροπύγιον, ἐρεείνεις, δεδάοις, πιφαύσκων, μενοινῶν, ἀντιξοεῖ, ξυμβεβυσμένον, πυρπολῶν*.

19. You may also subjoin, to whatever passages you translate, remarks upon the sense, or the metre, or remarkable phrases and constructions.

23rd September 1857.—*Afternoon.*

GREEK.—*Examiner, Charles MacDouall.* A.M.

I.—Translate, accurately, *either* of the two passages which follow :—

1. From the *Gorgias* of PLATON, cc. 29, 30, 31.

ΣΩ. *λέγε δή μοι, ἵν' εἰδῇς, ὥςπερ ἂν εἰ ἐξ ἀρχῆς σε ἠρώτων· πότερον δοκεῖ σοι, ὦ Πῶλε ! κάκιον εἶναι τὸ ἀδικεῖν ἢ τὸ ἀδικεῖσθαι ; ΠΩΛ. τὸ ἀδικεῖσθαι ἔμοιγε. ΣΩ. τί δὲ δὴ αἴσχιον ; πότερον τὸ ἀδικεῖν ἢ τὸ ἀδικεῖσθαι ; ἀποκρίνου. ΠΩΛ. τὸ ἀδικεῖν. ΣΩ. οὐκοῦν καὶ κάκιον, εἴπερ αἴσχιον. ΠΩΛ. ἥκιστά γε. ΣΩ. μανθάνω· οὐ ταὐτὸν ἡγεῖ σύ, ὡς ἔοικας, καλόν τε καὶ ἀγαθὸν καὶ κακὸν καὶ αἰσχρόν. ΠΩΛ. οὐ δῆτα. ΣΩ. τί δὲ τόδε ; τὰ καλὰ πάντα, οἷον καὶ σώματα καὶ χρώματα καὶ σχήματα καὶ φωνὰς καὶ ἐπιτηδεύματα, εἰς οὐδὲν ἀποβλέπων καλεῖς ἑκάστοτε καλά ; οἷον πρῶτον τὰ σώματα τὰ καλὰ οὐχὶ ἤτοι κατὰ τὴν χρείαν λέγεις καλὰ εἶναι, πρὸς ὃ ἂν ἕκαστον χρήσιμον ᾖ, πρὸς τοῦτο, ἢ κατὰ ἡδονήν τινα, ἐὰν ἐν τῷ θεωρεῖσθαι χαίρειν ποιῇ τοὺς θεωροῦντας ; ἔχεις τι ἐκτὸς τούτων λέγειν περὶ σώματος κάλλους ; ΠΩΛ. οὐκ ἔχω. ΣΩ. οὐκοῦν καὶ τἄλλα πάντα οὕτω καὶ σχήματα καὶ χρώματα ἢ διὰ ἡδονήν τινα ἢ διὰ ὠφέλειαν ἢ δι' ἀμφότερα καλὰ προσαγορεύεις ; ΠΩΛ. ἔγωγε. ΣΩ. οὐ καὶ τὰς φωνὰς καὶ τὰ κατὰ τὴν μουσικὴν πάντα ὡσαύτως ; ΠΩΛ. ναί. ΣΩ. καὶ μὴν τά γε κατὰ τοὺς νόμους καὶ τὰ ἐπιτηδεύματα οὐ δήπου ἐκτὸς τούτων ἐστὶ τὰ καλά, ἢ ὠφέλιμα εἶναι ἢ ἡδέα ἢ ἀμφότερα. ΠΩΛ. οὐκ ἔμοιγε δοκεῖ. ΣΩ. οὐκοῦν καὶ τὸ τῶν μαθημάτων κάλλος ὡσαύτως ; ΠΩΛ. πάνυ γε· καὶ καλῶς γε νῦν ὁρίζει, ὦ Σώκρατες, ἡδονῇ τε καὶ ἀγαθῷ ὁριζόμενος τὸ καλόν. ΣΩ. οὐκοῦν τὸ αἰσχρὸν τῷ ἐναντίῳ, λύπῃ τε καὶ κακῷ ; ΠΩΛ. ἀνάγκη. ΣΩ. ὅταν ἄρα δυοῖν καλοῖν θάτερον κάλλιον ᾖ, ἢ τῷ ἑτέρῳ τούτοιν ἢ ἀμφοτέροις ὑπερβάλλον κάλλιόν ἐστιν, ἤτοι ἡδονῇ ἢ ὠφελείᾳ ἢ ἀμφοτέροις. ΠΩΛ. πάνυ γε. ΣΩ. καὶ ὅταν δὲ δὴ δυοῖν αἰσχροῖν τὸ ἕτερον αἴσχιον ᾖ, ἤτοι λύπῃ ἢ κακῷ ὑπερβάλλον αἴσχιον ἔσται· ἢ οὐκ ἀνάγκη ; ΠΩΛ. ναί. ΣΩ. φέρε δή, πῶς ἐλέγετο νῦν δὴ περὶ τοῦ ἀδικεῖν καὶ ἀδικεῖσθαι ; οὐκ ἔλεγες τὸ μὲν ἀδικεῖσθαι κάκιον εἶναι, τὸ δὲ ἀδικεῖν αἴσχιον ; ΠΩΛ. ἔλεγον. ΣΩ. οὐκοῦν, εἴπερ αἴσχιον τὸ ἀδικεῖν τοῦ ἀδικεῖσθαι, ἤτοι λυπηρότερόν ἐστι καὶ λύπῃ ὑπερβάλλον αἴσχιον ἂν εἴη ἢ κακῷ ἢ ἀμφοτέροις ; οὐ καὶ τοῦτο ἀνάγκη ; ΠΩΛ. πῶς γὰς οὔ ; ΣΩ. πρῶτον μὲν δὴ σκεψώμεθα, ἆρα λύπῃ ὑπερβάλλει τὸ ἀδικεῖν τοῦ ἀδικεῖσθαι, καὶ ἀλγοῦσι μᾶλλον οἱ ἀδικοῦντες ἢ οἱ ἀδικούμενοι ; ΠΩΛ. οὐδαμῶς, ὦ Σώκρατες ! τοῦτό γε. ΣΩ. οὐκ ἄρα λύπῃ γε ὑπερέχει. ΠΩΛ. οὐ δῆτα. ΣΩ. οὐκοῦν, εἰ μὴ λύπῃ, ἀμφοτέροις μὲν οὐκ ἂν ἔτι ὑπερβάλλοι. ΠΩΛ. οὐ φαίνεται. ΣΩ. οὐκοῦν τῷ ἑτέρῳ λείπεται. ΠΩΛ. ναί. ΣΩ. τῷ κακῷ. ΠΩΛ. ἔοικεν. ΣΩ. οὐκοῦν κακῷ ὑπερβαλλον τὸ ἀδικεῖν κάκιον ἂν εἴη τοῦ ἀδικεῖσθαι. ΠΩΛ. δῆλον δὴ ὅτι. ΣΩ. ἄλλο τι οὖν ὑπὸ μὲν τῶν πολλῶν ἀνθρώπων καὶ ὑπὸ σοῦ ὡμολογεῖτο ἡμῖν ἐν τῷ ἔμπροσθεν χρόνῳ ἄισχιον εἶναι τὸ ἀδικεῖν τοῦ ἀδικεῖσθαι ; ΠΩΛ. ναί. ΣΩ. νῦν δέ γε κάκιον ἐφάνη. ΠΩΛ. ἔοικεν. ΣΩ. δέξαιο ἂν οὖν σὺ μᾶλλον τὸ κάκιον καὶ τὸ αἴσχιον ἀντὶ τοῦ ἧττον ; μὴ ὄκνει ἀποκρίνασθαι, ὦ Πῶλε ! οὐδὲν γὰρ βλαβήσει· ἀλλὰ γενναίως τῷ λόγῳ ὥςπερ ἰατρῷ παρέχων ἀποκρίνου, καὶ ἢ φάθι ἢ μὴ ἃ ἐρωτῶ. ΠΩΛ. ἀλλ' οὐκ ἂν δεξαίμην, ὦ Σώκρατες ! ΣΩ. ἄλλος δέ τις ἀνθρώπων ; ΠΩΛ. οὔ μοι δοκεῖ κατά γε τοῦτον τὸν λόγον. ΣΩ. ἀληθῆ ἄρα ἐγὼ ἔλεγον, ὅτι οὔτ' ἂν ἐγὼ οὔτ' ἂν σὺ οὔτ' ἄλλος οὐδεὶς ἀνθρώπων δέξαιτ' ἂν μᾶλλον ἀδικεῖν ἢ ἀδικεῖσθαι. κάκιον γὰρ τυγχάνει ὄν. ΠΩΛ. φαίνεται.*

2. From DEMOSTHENES' *Oration concerning the Crown*, § 88.

πολλὰ καὶ καλὰ καὶ μεγάλα ἡ πόλις, Αἰσχίνη ! καὶ προείλετο καὶ κατώρθωσε δι' ἐμοῦ, ὧν οὐκ ἠμνημόνησεν. σημεῖον δέ· χειροτονῶν γὰρ ὁ δῆμος τὸν ἐροῦντ' ἐπὶ τοῖς τετελευτηκόσι παρ' αὐτὰ τὰ συμβάντα οὐ σὲ ἐχειροτόνησε προβληθέντα, καίπερ εὔφωνον ὄντα, οὐδὲ Δημάδην, ἄρτι πεποιηκότα τὴν εἰρήνην, οὐδ' Ἡγήμονα, οὐδ' ἄλλον ὑμῶν οὐδένα, ἀλλ' ἐμέ. καί, σοῦ παρελθόντος καὶ Πυθοκλέους ὡμῶς καὶ ἀναιδῶς, (ὦ Ζεῦ καὶ θεοί !) καὶ κατηγορούντων ἐμοῦ ταὐτὰ ἃ καὶ σὺ νυνὶ καὶ λοιδορουμένων, ἔτ' ἄμεινον ἐχειροτόνησεν ἐμέ. τὸ δ' αἴτιον οὐκ ἀγνοεῖς μέν, ὅμως δὲ φράσω σοι κἀγώ. ἀμφότερ' ἤδεσαν οὗτοι, τήν τ' ἐμὴν εὔνοιαν καὶ προθυμίαν, μεθ' ἧς τὰ πράγματ' ἔπραττον, καὶ τὴν ὑμετέραν ἀδικίαν· ἃ γὰρ εὐθενούντων τῶν πραγμάτων ἠρνεῖσθε διομνύμενοι, ταῦτ' ἐν οἷς ἔπταισεν ἡ πόλις ὡμολογήσατε. τοὺς οὖν ἐπὶ τοῖς κοινοῖς ἀτυχήμασιν ὧν ἐφρόνουν λαβόντας ἄδειαν ἐχθροὺς μὲν πάλαι, φανεροὺς δὲ τόθ', ἡγήσαντο αὐτοῖς γεγενῆσθαι. εἶτα καὶ προςήκειν ὑπελαμβάνον τὸν ἐροῦντ' ἐπὶ τοῖς τετελευτηκόσι καὶ τὴν ἐκείνων ἀρετὴν κοσμήσοντα μήθ' ὁμωρόφιον μήθ' ὁμόσπονδον γεγενημένον εἶναι τοῖς πρὸς ἐκείνους παραταξαμένοις, μηδ' ἐκεῖ μὲν κωμάζειν καὶ παιωνίζειν ἐπὶ ταῖς τῶν Ἑλλήνων συμφοραῖς μετὰ τῶν αὐτοχείρων τοῦ φόνου, δεῦρο δ' ἐλθόντα τιμᾶσθαι, μηδὲ τῇ φωνῇ δακρύειν ὑποκρινόμενον τὴν ἐκείνων τύχην, ἀλλὰ τῇ ψυχῇ συναλγεῖν· τοῦτο δ' ἐώρων παρ' ἑαυτοῖς καὶ παρ' ἐμοί, παρὰ δ' ὑμῖν οὔ. διὰ ταῦτ' ἔμ' ἐχειροτόνησαν καὶ οὐκ ὑμᾶς. καὶ οὐχ ὁ μὲν δῆμος οὕτως, οἱ δὲ τῶν τετελευτηκότων πατέρες καὶ ἀδελφοὶ οἱ ὑπὸ τοῦ δήμου τόθ' αἱρεθέντες ἐπὶ τὰς ταφὰς ἄλλως πως· ἀλλά, δέον ποιεῖν αὐτοὺς τὸ περίδειπνον ὡς παρ' οἰκειοτάτῳ τῶν τετελευτηκότων, ὥςπερ τἄλλ' εἴωθε γίγνεσθαι, τοῦτ' ἐποίησαν παρ' ἐμοί. εἰκότως· γένει μὲν γὰρ ἕκαστος ἑκάστῳ μᾶλλον οἰκεῖος ἦν ἐμοῦ, κοινῇ δὲ πᾶσιν οὐδεὶς ἐγγυτέρω· ᾧ γὰρ ἐκείνους σωθῆναι καὶ κατορθῶσαι μάλιστα διέφερεν, οὗτος καὶ παθόντων ἃ μήποτ' ὤφελον τῆς ὑπὲρ ἁπάντων λύπης πλεῖστον μετεῖχεν.

λέγε δ' αὐτῷ τουτὶ τὸ ἐπίγραμμα, ὃ δημοσίᾳ προείλετο ἡ πόλις αὐτοῖς ἐπιγράψαι, ἵν' εἰδῇς, Αἰσχίνη ! καὶ ἐν αὐτῷ τούτῳ σαυτὸν ἀγνώμονα καὶ συκοφάντην ὄντα καὶ μιαρόν. λέγε.

ΕΠΙΓΡΑΜΜΑ.

οἵδε πάτρας ἕνεκα σφετέρας εἰς δῆριν ἔθεντο
ὅπλα καὶ ἀντιπάλων ὕβριν ἀπεσκέδασαν.
μνησάμενοι δ' ἀρετῆς καὶ λήματος—οὐκ ἐσάωσαν
ψυχάς, ἀλλ'—Ἀΐδην κοινὸν ἔθεντο βραβῆ,
εἵνεκεν Ἑλλήνων, ὡς μὴ ζυγὸν αὐχένι θέντες
δουλοσύνης στυγερὰν ἀμφὶς ἔχωσιν ὕβριν.
γαῖα δὲ πατρὶς ἔχει κόλποις τῶν πλεῖστα καμόντων
σώματ', ἐπεὶ θνητοῖς ἐκ Διὸς ἥδε κρίσις·
μηδὲν ἁμαρτεῖν ἐστι θεῶν καὶ πάντα κατορθοῦν,
ἐν βιοτῇ μοῖραν δ' οὔ τι φυγεῖν μερόπων.

II.—Subjoin to either passage any illustrative notes which it may naturally suggest.

III.—Translate the following passage into Attic prose :—

"Thus, then, one must beware of committing injustice rather than of suffering it, and must by all means make it a study not to seem virtuous, but to be so both in private and in public. But, if any one become in any way criminal, he must be punished ; and, indeed, after being righteous, this is the next blessing—to become such, and, by undergoing punishment, to render satisfaction. But all flattery, in reference alike to one's self and to others, and in reference alike to few and to many, must be shunned, while rhetoric and every other faculty must be ever exercised with a single view toward rectitude. Taking my counsel, then, follow me to that goal, on reaching which you will remain happy both in life and after your decease. And permit any one to contemn you as a simpleton and to heap abuse upon you ; ay ! serenely allow one, if he will, to inflict on you the insulting stroke : for you will suffer no calamity, if you be indeed honourable and good, cultivating virtue. And then, having thus trained ourselves together, we shall, if it seem expedient, address ourselves to politics, or we shall deliberate on whatever subject may seem suitable, being more able for deliberation than we are now. For it were disreputable for us, while in the condition which is obviously ours at present, to swagger as if persons of some consequence ;—us, who never hold by the same convictions upon the same subjects even the most important—so far are we gone in barbarism ! Let us, then, use as a guide the reasoning now propounded, which demonstrates to us that our best course is this—to be found, both in life and in death, exercising justice and all besides that makes up virtue."

25th September, 1857.—*Morning.*

COURSE I.—PROSE COMPOSITION IN ENGLISH.

Examiner, George L. Craik, A.M.

A short, but very carefully written, essay on any one of the following subjects:—The enjoyment to be found in intellectual tastes and acquirements—The value of literary glory to a nation—What language is to man—Writing, and what we owe to it—Printing compared with writing—The eloquence of Burke—The poetry of Moore—The Athenian contrasted with the Spartan.

26th September, 1857.—*Afternoon.*

MODERN LANGUAGES.

Examiner, Professor de Vericour.

FRENCH.

Translate:—

I.

"L'ame nous avertit de sa puissance par des volontés contraires à nos passions animales, de sa moralité par le sentiment inné du juste et de l'injuste, de sa grandeur par les actes spontanés d'une raison qui aspire aux vérités éternelles, de son origine céleste par la notion sublime du beau idéal, de son immortalité par le sentiment de l'infini qui va se perdre au sein de Dieu." —*Aimé Martin.*

II.

LA FEUILLE.

"De ta tige détachée,
Pauvre feuille desséchée,
Où vas-tu ?"—"Je n'en sais rien.
L'orage a brisé le chêne
Qui seul était mon soutien.
De son inconstante haleine
Le zéphyr ou l'aquilon
Depuis ce jour me promène
De la forêt à la plaine,
De la montagne au vallon.
Je vais où le vent me mène,
Sans me plaindre ou m'effrayer;
Je vais où va toute chose,
Où va la feuille de rose
Et la feuille de laurier."—*Arnault.*

III.

1. Explain the origin of the expression, "*Cést un coup de Jarnac.*"

2. Give the signification and etymology of the following words:—*céréales,—échiquier,—morcellement,—régie,—blason,—guet,—usine,—corvée,—gabelle,—Jurande.*

3. Give an account of the period when Spanish literature exercised an influence over that of France, and name those French writers who have been its greatest imitators.

4. Explain "*La moutarde lui monte au nez:*" mention a similar expression in a Latin writer.

5. Characterize the poetry of Boileau, and mention some of his imitations of Horace and Juvenal.

GERMAN.

Translate into English:—

I.

Willſt Du Dich ſelber erkennen, ſo ſieh wie die Andern es treiben:
Willſt Du die Andern verſtehn, blick' in Dein eigenes Herz.

Schiller.

II.

Mittel, bei Hofe alt zu werden.

An Höfen fällt es ſchwer, das Alter zu erreichen,
Das mancher ſchlichte Greis in niedern Hütten fand,
Dort wird der Glücklichſte, nach kurzen Gnadenzeichen,
Mit Titeln wohl verſorgt, oft plötzlich weggebannt.
Ein Alter hatte doch die meiſten Lebensjahre
An ſeines Fürſten Hof erſprießlich zugebracht,
Und ſeinen erſten Bart und ſeine grauen Haare
Zu Zeugen frühen Ruhms und langer Gunſt gemacht.
Der ward, wie dieſes ihm ſo meiſterlich gelungen,
Was Tauſend ſonſt verfehlt? einſt insgeheim befragt.
Er ſprach: Ich habe ſtets, auch für Beleidigungen,
Den Feinden meines Glücks gelaſſen Dank geſagt.

Hagedorn.

III.

1. Explain the signification of the following conjunctions:—als, da, weil, wie, wenn.

2. What class of English words are of Teutonic origin?

3. What influence did Frederic the Great exercise on German literature?

4. Try a parallel between Klopstock and Milton.

5. Mention the epoch of German literature to which Hagedorn belongs, and explain the position he holds therein.

ITALIAN.

Translate into English:—

I.

LA FRAUDE.

Avea piacevol viso, abito onesto;
Un umil volger d'occhi, un andar grave,
Un parlar sì benigno e sì modesto,
Che parea Gabriel che dicesse *Ave:*
Era brutta e deforme in tutto il resto,
Ma nascondea queste fattezze prave
Con lungo abito e largo, e sotto quello
Attossicato avea sempre il coltello.

Domanda a costei l'Angelo, che via
Debba tener, sì che il Silenzio trove.
Disse la Fraude: già costui solìa
Fra virtudi abitare e non altrove,
Con Benedetto, e con quelli d'Elia
Nelle Badìe, quand' erano ancor nove:
Fe' ne le scole assai de la sua vita
Al tempo di Pitagora, e d'Archita.—*Ariosto.*

II.

Intanto Erminia infra l'ombrose piante
D'antica selva dal cavallo è scorta:
Nè più governa il fren la man tremante;
E mezza quasi par tra viva e morta:
Per tante strade si raggira e tante
Il corridor che in suo balìa la porta,
Ch' alfin dagli occhi altrui pur si dilegua,
Ed è soverchio omai ch' altri la segua.

Fuggì tutta la notte, e tutto il giorno
Errò senza consiglio e senza guida;
Non udendo, o vedendo altro d'intorno,
Che le lagrime sue che le sue strida:
Ma nell' ora, che 'l Sol dal carro adorno
Scioglie i corsieri, e in grembo al mar s'annida
Giunse del bel Giordano alle chiare acque,
E scese in riva al fiume, e qui si giacque.—*Tasso.*

III.

1. Explain the difference between the words *gía* and *già,—balía* and *bália,—stroppiccío* and *stroppíccio.*

2. State in what cases the grave accent is employed in Italian.

3. What adverbs are they which, followed by a substantive, become adjectives in Italian? Give examples.

4. State what rule of grammar is violated in the following line of Tasso:—

—— Ma pietà nulla giove,
S'anco te il dritto e la ragion non move.

5. Say what you know of the life and works of Tasso.

Translate into French, or German, or Italian:—

We do not anywhere meet a more sublime description than this justly celebrated one of Milton, wherein he gives the portrait of Satan with a dignity so suitable to the subject:—

He above the rest
In shape and gesture proudly eminent
Stood like a tower: his form had yet not lost
All her original brightness, nor appear'd

APPENDIX II.

Examination for the Degree of A.M.

Group I. and Group II.

Less than archangel ruin'd, and th' excess
Of glory obscur'd: as when the sun new ris'n
Looks through the horizontal misty air
Shorn of his beams: or from behind the moon
In dim eclipse disastrous twilight sheds
On half the nations: and with fear of change
Perplexes monarchs.

Here is a very noble picture; and in what does this poetical picture consist? in images of a tower, an archangel, the sun rising through mists, or in an eclipse, the ruin of monarchs, and the revolutions of kingdoms. The mind is hurried out of itself by a crowd of great and confused images, which affect because they are crowded and confused. For separate them, and you lose much of the greatness; and join them, and you infallibly lose the clearness. The images raised by poetry are always of this obscure kind; though, in general, the effects of poetry are by no means to be attributed to the images it raises. But painting, when we have allowed it for the pleasure of imitation, can only affect simply by the images it presents; and even in painting, a judicious obscurity in some things contributes to the effect of the picture; because the images in painting are exactly similar to those in nature; and in nature dark, confused, uncertain images have a greater power on the fancy to form the grander passions than those have which are more clear and determinate.—*Burke.*

25th September, 1857.—*Morning.*

COURSE II.—ENGLISH PHILOLOGY AND CRITICISM.

Examiner, George L. Craik, A.M.

1. Give an account of the changes of signification which the following words have undergone even within the period of the present form of the English language:—*Sad, Tall, Let, Owe, Prevent, Pretend, Apprehend, Censure, Convince, Resent, Conceit, Companion, Defend, Intend, For, Curst, Dear, To Fear, Because, Whereas, Lover, Graceful, Imperious, Willing, Quick, Kindly, Temperance, Temperament, Ingenuity, Dutch, Disagreeable, Merits, Thews, Civility, Notably, Render, Wealth, Sensible, Approve, Entreat, Creature, Address.*

2. State, and illustrate by examples, Grimm's Canon or Law of Interchange, in so far as it respects the relation between the Pelasgic (or Classic) tongues and the Low Germanic.

3. Explain what is meant by the distinction between *weak* and *strong* nouns in the Gothic languages, and how it is connected with what is called the *n* declension, and also with the definite and indefinite senses of the adjective.

4. Explain what are meant by strong and weak verbs; and state the considerations, or some of them, from which it has been inferred that the distinction is a natural one in our language.

5. Give an account of the words *She, It,* and *Its.*

6. Explain the nature of what has been called the *Periodic* style, with its recommendations and disadvantages, as pointed out by Aristotle (*Rhet.* III. 9), or by Archbishop Whately (*El. of Rhet.* III. 2).

7. Give an account of *To,* used as verbal prefix.

25th September, 1857.—*Afternoon.*

COURSE II.—ENGLISH PHILOLOGY AND CRITICISM.

Examiner, George L. Craik, A.M.

1. Give an account of the plot of any one of the following Plays of Shakespeare:—*The Tempest, The Merchant of Venice, As You Like It, Julius Cæsar, Macbeth,* or *Hamlet.*

2. State what appears to you to be the true conception of any one of the following characters in Shakespeare:—Hamlet, Macbeth, Lady Macbeth, Lear, Falstaff.

3. Give an account of the plot of Milton's *Paradise Regained.*

4. Compare the poetical spirit of *Paradise Lost* with that of the *Iliad.*

5. Compare Hume, Robertson, and Gibbon, in respect of narrative art.

6. Compare the narrative manner of Carlyle with that of Macaulay.

7. Compare and discriminate Burns, Moore, and Tennyson, in respect of lyrical genius and manner.

8. Give an account of the poems and of the poetical style and manner of Wordsworth.

9. Sketch the biography either of Spenser, or of Milton, or of Swift, or of Johnson, or of Scott.

26th September, 1857.—*Morning.*

LOGICS.—*Examiner, Professor Moffett*, LL.D.

1. How are the fundamental principles on which reasoning proceeds determined? To what philosopher has the express reference of logical rules to axiomatic principles been traced? Enumerate the three highest laws of thought employed in reasoning.

2. Kant has remarked that, since the time of Aristotle logic has made neither progress nor retrogression; how does he account for this? What additions have been made to the *processes* of logic by the post-Aristotelian logicians? What addition to the *matter* of logic emanated from the Neo-Platonic school? What material was added by the Arabians? Name the most eminent Arabian philosophers?

3. Name the several treatises that compose the Organon, with the subject matter of each. The term *Logic* is of ambiguous derivation. By whom was it first used as the name of a science? What term used by Aristotle is most nearly synonymous with the modern *Logic*? By whom was the term *Dialectic* invented? Aristotle employs this term in a sense very different from its Platonic acceptation. What term used by Aristotle is synonymous with the *Dialectic* of Plato?

4. Δύο γάρ ἐστιν ἃ τις ἂν ἀποδοίη Σωκράτει δικαίως, τούς τ' ἐπακτικοὺς λόγους καὶ τὸ ὁρίζεσθαι καθόλου· Estimate the value of the contributions to logic here ascribed to Socrates. By whom, according to Bacon, was Induction first employed, and for what purpose? Explain the following passage:—Ἀλλ' ὁ μὲν Σωκράτης τὰ καθόλου οὐ χωριστὰ ἐποίει οὐδὲ τοὺς ὁρισμούς· οἱ δ' ἐχώρισαν καὶ τὰ τοιαῦτα τῶν ὄντων ἰδέας προσηγόρευσαν. Can you adduce any passages to show that Aristotle was not a Realist?

5. With whose name does the age of Commentators on Aristotle commence? What is the origin of the name *Schoolmen*? Name some of the most important contributions of the Middle Ages to logic? What philosophers are known as the "Plato and Aristotle of Scholasticism," and on what grounds were these appellations given? When and with whom did the reaction against the Scholastic logic begin?

6. The Baconian influence is manifest throughout the logic of Hobbes. What, according to Hobbes, is "the end of knowledge," and "the scope of all speculation?" How does he define Reasoning? He has said that by the process of reasoning we can infer nothing as to the nature of things, but only as to their names; this error may be easily exposed. What is its source?

7. Kant is said to have done more for logic than any philosopher since Aristotle; mention the services he has rendered to logical science. What is Kant's judgment as to the nature of hypothetical reasoning? What is the proper converse of an hypothetical proposition? There is a common *practical* mistake on this subject.

8. Define Truth, Error, Falsehood. What is Truth, according to Locke? Is a universal criterion of objective truth attainable?

9. State the various kinds of Immediate Inference. How have such inferences been designated by Kant? What is the supreme canon of Mediate Inference, and what is the canon of the Third Figure, according to Hamilton? Describe generally Hamilton's scheme of Notation.

10. Determine the number of possible conclusions in a Sorites. How is the resolution of a Sorites into syllogisms restricted? How many Figures of syllogism did Kant contend for; and on what grounds? Why has the fourth Figure been objected to?

11. Draw up a synoptic table of fallacies.

12. (I.)—Assuming that every exotic plant is interesting, but that not a few such plants are useless, should we be in any danger in inferring that few things which are useless are also interesting?

(II.)—Examine the following syllogism:—"What men do every day, they do more than once; some men die every day; therefore, some men die more than once."

(III.)—Because any one great man might have had his place supplied by other great men, it is often concluded that all great men could have been dispensed with. What is the fallacy of this?

13. Point out the ambiguities of the following words; and mention some remarkable fallacies and logomachies resulting therefrom; Same, Necessity, Impossibility, Certainty, Experience.

14. What is Analogy? Of what use is it in science? What are the precautions necessary to be observed in reasoning by it? *How* is Analogy an answer to objections? What is the fallacy of the following argument of Hooker:—"As there could be in natural bodies no motion of any thing unless there were some which moveth all things, and continueth immovable; even so in politic societies there must be some unpunishable, or else no man shall suffer punishment."

15. Define the terms, Law of Nature and Cause. What is the foundation of our belief in the permanence of the Laws of Nature? How is it that a chapter on Causation comes within the limits of Inductive Logic? Is Chance properly opposed to Law? Why is it incorrect to say that a phenomenon is produced by chance? What is meant by "facts casually conjoined"?

16. What is the real type of scientific Induction? State the chief processes which are necessary to perform Induction efficiently. What was Bacon's model inquiry? What deeply-rooted prejudice vitiated the whole practical part of his system of Logic, according to Mill? "A revolution is progressively effecting itself in philosophy, the reverse of that to which Bacon has attached his name:" explain this.

17. On what assumed principle did Descartes construct his philosophical system? How does Mill expose and designate the fallacy?

18. "Quae res nihil commune inter se habent, earum una alterius causa esse non potest." Whence did Spinoza infer this principle, and how did he apply it? This principle has manifested itself in various forms. Give the substance of Mill's criticism thereon.

19. What is the false logic, and what are the unduly assumed premises in Berkeley's argument, according to the judgment of his critics?

20. Define Final Cause. State the views of Bacon, Descartes, Spinoza, and Kant, on the subject of Final Causes. To what *Idol* does Bacon refer the misplaced investigation of them? Spinoza's account fails to account for the facts of the case. In what part of his system does Kant treat of this subject? How does he define Organization? Whence, according to Whewell, is the idea of Final Cause derived? What principles have been put in opposition to that of Final Causes? Are they really contradictory? Define Morphology?

21. What is meant by Kinds? The word "species" is used in Natural History in a sense different from its logical import. What is the great problem of classification as subsidiary to Induction? How is a Natural distinguished from an Artificial classification? "Natural Groups," says Whewell, "are given by Type, not by Definition"; how does he apply and illustrate this remark? What are the Classificatory Sciences, and on what ideas are they founded, according to Whewell?

26th September, 1857.—*Afternoon.*

METAPHYSICS.

Examiner, Professor Moffett, LL.D.

1. What it the origin of the name Metaphysics? By whom was it first employed? What term used by Aristotle is most nearly synonymous with modern Metaphysics? Metaphysics has been divided into Psychology and Ontology; define the dividing members. What is meant by the *ontological* argument for the existence of God?

2. Hamilton remarks that "the result of Kant's criticism was the abolition of the Metaphysical Sciences"—explain this. How did Kant attempt to escape ontological scepticism? Give a general summary of his conclusions as to human knowledge.

3. What modern philosopher first clearly laid down the distinction between the *subject* and the *object?* What is the nearest approach in Aristotle to the expression of the antithesis of *subject* and *object*, and *subjective* and *objective?* How is *subjective* distinguished from *objective* certainty?

4. Describe the four fundamental systems to which, according to Cousin, all the schools of philosophy may be reduced. Can you illustrate this analysis from the philosophical history of the seventeenth and following century. "Each of the three great questions which make up metaphysics became the special object of one of the three great schools of the eighteenth century." Explain this.

5. Who is the founder of modern Idealism? "Every energetic movement of Sensationalism in England has had opposed to it a corresponding movement of Idealism;" can you verify this from history? Who were the Cambridge Platonists, and what was their method? One of their number is said to have anticipated Kant's fundamental principle. What circumstances in the philosophical history of England led to the rise of this school? What were the analogous circumstances in the history of Greek speculation? What work exhibits the climax of English Idealism?

6. Name the most eminent representative of the Scholastic Age in Germany. What is the great era in the modern philosophical history of Germany? Indicate the most remarkable phases of German speculation from that period until the present, with their respective representatives.

7. In the opinion of Bacon, the reformation of the sciences depended upon two conditions—generally speaking—the one objective, the other subjective; what were these? Give an outline of the plan of the *Novum Organum*, and estimate the influence it has exercised on the progress of science. Did Bacon render any service to *intellectual* philosophy?

8. Give a concise account of the Methodology of Descartes. What was his threefold division of Ideas? What was his proof of Innate Ideas? Trace the successive meanings of the word Idea.

9. The system of Spinoza is founded upon certain fundamental conceptions from which all the rest may be deduced; point out its all-pervading fallacy.

10. What is the fundamental thesis of the philosophy of Leibnitz? Give a general account of his metaphysical system with the logical principles involved in it. What is the subject of his Théodicée?

11. Explain the remark that "the Essay on the Human Understanding is a work of Psychology, not of Ontology." We find, however, in Locke, numerous instances of ontological speculation.

12. It is frequently said, that "the *empiricism* of Locke led to the *scepticism* of Hume;" define the terms here employed, and examine the justice of the allegation.

13. What is Locke's classification of the Qualities of body? The term "Qualities" is not properly applicable to the three classes of attributes; why? Analogous distinctions are to be found in some of the ancient schools of philosophy. What is meant by the *common* and *proper sensibles?* How do you account for the fact, that this discrimination of qualities is not found in the modern German and French systems of philosophy? What objections are there to supposing secondary qualities to be in things? What did Locke mean by saying, that our ideas of primary qualities are "exact resemblances?"

14. Distinguish the Idealism of Berkeley from that of Malebranche, and that of Fichte.

15. State precisely what is the object before the mind in Perception, according to Kant. Distinguish the *chemical* from the *mechanical* action of causes; and thence explain the following passage:—"The method of Psychology before Kant may be likened to a kind of

Appendix II.

Examination for the Degree of A.M.

Group II.

mental mechanics; that of Kant himself to a kind of mental chemistry." What, according to Kant, is the radical problem of philosophy? What are the subjects of Kant's Transcendental Æsthetic and Transcendental Analytic? Examine the process by which he deduces the laws of the Understanding from the logical forms of judgment, and the Ideas of the Reason from the division of syllogisms.

16. Where does Cousin find the source of Kant's scepticism, as to the relative nature of human knowledge; and how does he propose to obviate it? How does he contrast Spontaneity with Reflection? What is the doctrine of the "Impersonality of the Reason?" We find intimations of this doctrine in some ancient writers. What are the laws of Reason, according to Cousin; and how does he endeavour to prove that "the laws of Reason are laws of Existence?"

17. Enumerate the most remarkable theories that have been advanced on the subject of the Infinite; and state the theory you adopt, with the grounds of your preference. Hegel's whole philosophy, according to Hamilton, is founded on two errors.

18. In what schools of ancient philosophy were views maintained accordant with the *presentative* and *representative* theories of Perception, respectively?

19. What is the only attempt at a theory of Association to be found in any Greek philosopher? What principles of Association are enumerated?

20. Aristotle states, in very precise terms, the influence of the antecedent philosophies of Greece upon the formation of Plato's views in the several departments of his speculation. What great controversy occupied the speculative circles in Plato's day? Plato is to be considered as a mediator between the opposing theorists. What is the subject of the Theaetetus? Give some account of the course of the argument.

21. Who was the author of the dogma—"The conscious individual is the measure of all?" What consequences was it supposed to involve in intellectual and moral science? How is it refuted by Plato?

22. How do Plato and Aristotle differ as to the nature of the soul? Whence does Plato infer the eternity of the rational element? Does the Νοῦς of Plato correspond to the Reason of Kant? The Platonic Ἀνάμνησις has been explained by some so as to accord with a fundamental doctrine of Kant. Its essential truth is embodied, it is said, in a well-known formula of Leibnitz. What great English poet exhibits the *literal* acceptation of the doctrine? How is the Pythagorean definition of the soul refuted by Aristotle? By what twofold process does Aristotle fix the generic character and essence of the soul? What is his definition of it?

23. What would you consider the characteristic attribute of Aristotle's mind, as distinguished from that of Plato? How are their *methods* contrasted? Whence does Aristotle derive his data?

24. How does Aristotle differ from Socrates and Plato as to the nature of Virtue? By what disjunctive argument does he fix the generic character of Virtue? What are the grounds of his successive eliminations? How does he establish the *differentia?* State his definition fully. What is meant by the "relative mean;" and what by the remark, that "Virtue is at the same time a mean and an extreme?" Aristotle's ethical system rests on a psychological basis; what are the five *intellectual* habits which he discusses as connected with ethics?

25. What classification of acts does Aristotle institute in reference to the principle of Will? What is his determination respecting μικταὶ πράξεις; and how does he exemplify them? How does he determine the genus and species of προαίρεσις? How are προαίρεσις and ἐπιθυμία distinguished? How does Locke show that "Will and Desire are not to be confounded?"

26. What are the principal points of inquiry with respect to the phenomena of the Will? State the various answers that have been given to the question—"What determines volition;" and name the most eminent writers in this controversy. Define Motive.

27. From what principles does Aristotle deduce his definition of Happiness? Compare his views on this subject with those of Plato, the Stoics, and the Epicureans. In what context does he assert the reality of *disinterested* virtue? What is the earliest dissertation on the *summum bonum?*

28. How does the question of an existence after death enter into Aristotle's reasonings? Give an account of his views on this subject. What Greek philosopher first asserted the immortality of the soul?

29. Explain the following passage:—

"Tempus item per se non est; sed rebus ab ipsis
Consequitur sensus, transactum quid sit in aevo;
Tum quae res instet; quid porro deinde sequatur:
Nec per se quenquam tempus sentire fatendum est
Semotum ab rerum motu placidaque quiete."

Whose doctrine is embodied in these lines? Compare it with the views of Plato and Kant on the same subject. What was Aristotle's great argument for the eternity of the universe? How would you reply to it on the principles of Plato?

28th September, 1857.—*Morning.*

JURISPRUDENCE.

Examiner, D. Caulfeild Heron, LL.D.

1. What does Sir James Mackintosh include under the term, law of nature and nations?

2. What causes, in Modern Europe, gave rise to the law of nations?

3. The word "law" is, in the English Language, used to express two distinct ideas, which in other languages are expressed by distinct words.

4. Define *evidence* and *proof.*

5. What is pre-appointed evidence?

6. What are the fundamental principles of coercive law?

7. The virtues incapable of coercion may be reduced to three classes.

8. What are the conditions which ought to belong to a code of laws?

9. What is the first principle of division in a code?

10. On what foundation does the authority of custom rest?

11. How does Savigny characterize custom?

12. Define the term, *philosophy of law.*

28th September, 1857.—*Morning.*

JURISPRUDENCE.—(Paper No. 2.)

Examiner, D. Caulfeild Heron, LL.D.

1. Define circumstantial evidence. State, in your opinion, the principal circumstances which led to the verdicts of the juries in the cases of William Palmer, Madeleine Smith, and James Spollen, respectively.

2. "The great Duke
Came to the bar; where to his accusations
He pleaded still not guilty, and alleg'd
Many sharp reasons to defeat the law;
The King's attorney, on the contrary,
Urg'd on the examinations, proofs, confessions
Of divers witnesses, which the Duke desired
To him brought *viva voce*, to his face."—
Hen. VIII., *act* II. *scene* 2.

(*a*) To what trial is allusion here made?

(*b*) Show, from this description, the then defective state of the law of evidence.

3. "The type of the revolt is Nena Sahib. He is the true barbaric ideal. It is he, and his predecessors in the line of treachery, who have kept Asia down since the beginning of the world, and made her the property and prey of any stronger race. Yet, in a sense, this man is young Asia, and we see what we are to expect from communicating European arts and accomplishments to Hindoos, without our religion or our manly character. It is said that he is quite an accomplished gentleman; he speaks English fluently and well; he was a constant visiter at Cawnpore; a great friend of the officers; a companion in their field sports; often invited to their picnics. His alleged wrong we have already exposed. He has been entirely made by the British rule, and owes every thing—his very existence—to us. Such is the man who, having induced his old friends and companions,

the officers at Cawnpore, to capitulate, as they did chiefly on account of the crowd of poor women and children they had in the fort at the point of starvation, massacred the whole; no, not the whole immediately."—*Times, September* 3, 1857.

Whether does the conduct of Nena Sahib, and other educated natives in the great Indian mutiny, afford an argument for or against the education of the natives of British India, in European accomplishments and civilization? State the reasons for the proposition which you adopt?

4. What is the object of a statute?

5. Mr. Reddie draws three conclusions from the results of codification amongst the continental nations.

6. Should the principle of "limited liability" be extended to banking companies in the cases of—

(*a*) Banks of issue?

(*b*) Banks of discount?

7. What is the present state of the law with respect to savings' banks in Ireland; and what changes are required to give adequate security to depositors?

8. Contrast Lord Bacon's maxims as to appeals with those of Bentham.

9. Explain the origin and policy of the usury laws, and the considerations which led to their repeal.

10. In the discussion of general subjects—*e.g.*, inheritance, partnership, bankruptcy—how do you distinguish the questions peculiar to jurisprudence and political economy, repectively?

11. Classify imperial and colonial powers.

12. Give an historical sketch of the progress of jurisprudence during the seventeenth and eighteenth centuries.

28th September, 1857.—*Afternoon.*

POLITICAL ECONOMY.

Examiner, D. Caulfeild Heron, LL.D.

1. Change the present currencies of England, France, and the United States, into one decimal currency, mentioning what coins you propose to retain, what coins you propose to abolish, and what new coins will be necessary.

2. Give an account of the changes which have taken place in the standard of value in England since the Conquest, and state what is the present standard of value?

3. Explain the distinctions between the English system of bankers making advances on bills of exchange, and the Scotch system of advances upon cash accounts. What are the functions of a bank of issue, a bank of deposit, and a bank of discount, respectively?

4. What are the causes of depreciation in the case of a metallic and of a paper currency, respectively?

5. Adam Smith defines fixed and circulating capital, and divides each into four classes.

6. What was the mercantile system? Show its errors.

7. "The English funds have again been rather flat to-day. *Consols* opened at the closing quotations of last evening, and subsequently experienced a decline of an eighth. The first transactions were at $90\frac{5}{8}$ to $\frac{3}{4}$, and they left off at $90\frac{1}{2}$ to $\frac{5}{8}$. For the 9th of September the last official price was $90\frac{5}{8}$ to $\frac{3}{4}$, but there was a little more firmness after regular hours. The rate for loans was, $4\frac{1}{2}$ per cent. *Bank Stock* closed at 214 to $215\frac{1}{2}$; *Reduced*, 91 to $\frac{1}{8}$; *New Three per Cents.*, $91\frac{1}{4}$; *India Stock*, 210 to 213; *India Bonds*, 20*s.* to 16*s. discount*; and *Exchequer-bills*, 4*s. discount to par.*"—*Times, August* 27, 1857. Explain the different technical terms marked in *italics* in the above quotation from the *Times*. What is the "unfunded debt?"

8. Distinguish political economy from ethics and jurisprudence.

9. Mr. Mill classifies labour.

10. There are four fundamental propositions respecting capital.

11. What are the advantages and disadvantages of the joint-stock principle in production?

12. Upon what does the increase of capital depend?

13. Define Communism. Define Socialism. What were the systems of Fourier and St. Simon? What are the objections to an equality, and what to a community of property? State the principal occasions upon which the theories of Socialism have been tried in practice, and the result.

14. State the *metayer* system and its varieties, its advantages and inconveniences.

15. Define *Value in Use; Exchange Value; Natural Value; Cost Value; Price; International Value.*

16. Define credit. How does it assist production, and economize the use of money? There are four forms in which it is employed as a substitute for money.

17. When two countries trade together in two commodities how will the exchange value of these commodities, relatively to each other, adjust itself? and within what limits will the proportions vary in which the two commodities will be interchanged?

18. Define a pound sterling.

19. Sketch the history of the income tax in England.

20. Give a sketch of the history of political economy, including the dates and works of the principal authors in England and France.

28th September, 1857.—*Afternoon.*

MATHEMATICS.

Examiner, George Boole, LL.D., F.R.S.

1. If a, b, c, and d are positive quantities, and such, moreover, that $ma-nb$ and $mc-nd$ are of the same sign for all possible values of m and n, show that $ad=bc$. What connexion has the above problem with the question of the relation between the geometrical and arithmetical doctrines of proportion?

2. Deduce, in an explicit and rational form, the relation among a, b, and c, which is implied by the simultaneous equations—

$$x+y=a,\ x^2+y^2=b^2,\ x^3+y^3=c^3.$$

3. Investigate an expression for the volume of the ellipsoid whose equation is—

$$ax^2+by^2+cz^2+2dyz+2exz+2fxy=1.$$

4. The locus of the point of intersection of three planes at right angles to each other, and each of which touches one of three confocal ellipsoids, is a sphere.

5. Investigate the condition which must be satisfied in order that the equation—

$$Pdx+Qdy+Rdz=0,$$

in which P, Q, and R, are functions of the quantities x, y, z, may admit of an integral which can be geometrically interpreted by a surface.

6. What species of *particular* solutions does the above equation admit of, when the condition referred to is not satisfied, and what is the geometrical interpretation of such species of solutions? Apply your observations to the following equation, viz.—

$$xdx-ydy+(lx+my)dz=0.$$

7. Prove that the remainder, after n terms, of Taylor's series for the expansion of $\phi(x+h)$, satisfies the following differential equation—

$$\frac{dR}{dh}-\frac{dR}{dx}=\frac{d^n\phi(x)}{dx^n}\frac{h^{n-1}}{1\,.\,2\,.\,.\,n-1}.$$

8. Integrate, generally, the above equation, and show from the result that R may be expressed in the form—

$$R=\frac{h^n}{1\,.\,2\,.\,.\,n-1}\int_0^1 d\theta(1-\theta)^{n-1}\ \frac{d^n}{dx^n}\phi(x+h\theta).$$

Verify this conclusion by reproducing from it the remainder, R, in its original form; and, further, deduce from it a known expression for the *limit* of the remainder.

9. Give some account of the principal methods employed in the evaluation of definite integrals, exemplifying them in deducing the values of the following integrals, viz.:—

$$\int_0^\infty \varepsilon^{-x^2}dx,\qquad \int_0^\infty \varepsilon^{-x^2}x^{2n}dx$$

$$\int_0^\infty \frac{\sin.\,bx}{x}dx,\qquad \int_0^\infty \frac{x\sin.\,ax\,dz}{1+x^2}$$

$$\int_0^\infty \varepsilon^{-x^2}\cos.\,ax\,dx,\qquad \int_0^\pi \frac{(\sin.\,x)^{2n}dx}{(1-2a\cos.\,x+a^2)^n}.$$

APPENDIX II.

Examination for the Degree of A.M.

Group III.

10. Demonstrate the relation—

$$\Gamma(n)\Gamma(1-n)=\frac{\pi}{\sin.\ n\pi},$$

and prove the following theorems—

$$\int_0^{\infty} dx \cos.(a\pm hx^2)=\frac{\pi^{\frac{1}{2}}}{h^{\frac{1}{2}}}\cos.\left(a\pm\frac{\pi}{4}\right)$$

$$\int_0^{\infty} dx \sin.(a\pm hx^2)=\frac{\pi^{\frac{1}{2}}}{h^{\frac{1}{2}}}\sin.\left(a\pm\frac{\pi}{4}\right)$$

pointing out from the forms of the results an important application to the theory of multiple integrals.

11. Give some account of the different methods which may be employed for evaluating the triple integral which expresses the attraction of an ellipsoid on an external point, viz.,—the methods which are respectively founded upon integral transformations, upon geometrical considerations, upon the properties of a certain partial differential equation, and upon the properties of discontinuous functions. Show how, in the employment of the last method, the two cases of the attraction on an exterior, and the attraction on an interior point, are both included in the same general solution.

12. Write a short essay on the theory of probabilities, embracing the following topics, viz. :—

1. The real meaning of the mathematical definition of probability.
2. The general principles flowing from that definition.
3. The application of the theory to the estimation of the value of evidence.
4. Its application to the theory of astronomical observations.

In connexion with the last-mentioned application, give that demonstration of the method of least squares which you consider most satisfactory. Finally, show how it may be applied to the solution of superfluous systems of equations which are *not* linear.

23rd September, 1857.—*Morning.*

MIXED MATHEMATICS.

Examiner, John Stevelly, LL.D.

1. Investigate, by the method of indeterminate coefficients, the conditions of equilibrium of m particles, the motions of which are subjected to n fixed conditions; and point out the advantages of the method.

2. Investigate the position of a plane perpendicular to the axis of a paraboloid of revolution which cuts off a slice of which the centre of gravity is at the focus.

3. Enumerate the chief steps in the process by which the components of the attraction of an ellipsoid are found to be

$$X=-K\,\alpha\,L$$
$$Y=-K\,\beta.\frac{d.\lambda L}{d\lambda}$$
$$Z=-K\,\gamma.\frac{d.\lambda' L}{d\lambda'}$$

and explain why, if the ellipsoid be one of revolution, we must differentiate before putting λ for λ'.

4. Prove that if a uniform spherical shell exert no force on internal particles, the law of attraction must be that of the inverse square.

5. Apply the principles of areas and virtual velocities to establish the equations—

$$A^2p^2+B^2q^2+C^2r^2=k^2$$
$$Ap^2+Bq^2+Cr^2=h$$

for the motion of a heavy solid round a fixed point at its centre of gravity.

6. State the geometrical interpretation of these equations, and show from it that the mean principal axis is an *unstable* permanent axis of rotation.

7. When $Xdx+Ydy+Zdz$ is integrable, prove that the positions for which its integral is maximum, will be positions of stable equilibrium; but that unstable equilibrium does not necessarily exist where it is minimum.

8. State the circumstances under which there will exist an invariable plane, and determine its position.

9. Prove that the *vis viva* of any system equals twice the power which has been accumulated in it.

10. Prove Carnot's theorem for inelastic impacts, that

$$\Sigma mv^2-\Sigma mV^2=\Sigma mw^2$$

and reconcile this loss of *vis viva* with the theorem, that when $Xdx+Ydy+Zdz$ is a perfect differential, the *vis viva* is a function of the positions of the bodies.

11. Prove that a spheroidal form is consistent with the uniform rotation of a homogeneous fluid, the particles of which mutually gravitate.

12. A given weight is attached to the free end of a string, coiled on a uniform solid cylinder, mounted without friction, on fixed points, and of given weight and dimensions; investigate the strain on the string while the weight is allowed to run down.

13. Show, on the principles of rotation, but without entering into details, the nature of the effect which the attraction of the sun on the protuberant matter at the earth's equator, has on her rotation.

23rd September, 1857.—*Afternoon.*

MIXED MATHEMATICS.

Examiner, John Stevelly, LL.D.

1. Explain how observations of occultations may be made a delicate test of the presence of a lunar atmosphere?

2. Considering the earth as an oblate spheroid, show that two measurements of degrees of latitude will suffice to determine its ellipticity.

3. In the expression of the moon's longitude, the terms which give the elliptic inequality and evection together are

$$\theta=pt+2e\sin.(cpt-\alpha)+\tfrac{5}{4}e^2\sin.2(cpt-\alpha)$$
$$+\tfrac{15}{4}me\sin.\{(2-2m-c)pt-2\beta+\alpha\}$$

From these determine the change in the position of the apse, and in the eccentricity of the moon's orbit produced by the evection.

4. Describe the effect on the form of the moon's orbit of the term $m^2a\cos.\{(2-2m)\theta-2\beta\}$ in the expression for the reciprocal of the radius vector. Explain how the same effect is deduced by Newton's method.

5. Give the construction by which Newton calculated the motion of the nodes on the hypothesis of a circular orbit; and explain why *twice* the space through which the disturbing force would draw the moon in a unit of time enters into it.

6. The mean motion of the apse of one of Jupiter's satellites, due to the sun's disturbing action, is nearly equal to the mean motion of the nodes due to the same cause. This is far from being true in the case of the moon. What occasions the difference?

7. Show that the mutual action of two small closed conductors, in the same plane, is along the line joining them, and varies as the 4th power of the distance.

8. Investigate the action of a fixed current, on a movable rectilinear current in the direction of its length.

9. Light emanates from a radiant point, and, after traversing the distance δ, meets an imperfectly transparent medium, which it traverses through the thickness θ; show that the final intensity of the light

$$=\frac{A\alpha^{\theta}}{(\delta+\theta)^2}$$

10. Show that the dispersion of a beam of homogeneous light by a prism is a minimum, when the tangent of the angle of emergence is a mean proportional between the tangents of the angles of refraction within the prism.

11. Give the investigation for the general expression for the focal length of a lens.

12. A cylinder of given dimensions, with its axis vertical, is filled with a heavy fluid, and the surface of the fluid is found to descend through the nth part of the axis in t seconds of time; find the diameter of the circular orifice in the base through which it is discharged, omitting any consideration of the vena contracta.

13. Assume the height of the homogeneous atmosphere to be 27,690 feet, find the velocity with which air will rush through a small orifice into a vacuum.

23rd September, 1857.—*Afternoon.*

PHYSICS.—*Examiner, John Stevelly*, LL.D.

1. Detail the circumstances which contribute to render a Daniell's cell so much more constant in its action than the common copper and zinc element.

2. Describe and explain apparatus by which very feeble currents of electricity may be detected—

1°. If the electromotive force be considerable, but the current rendered weak by meeting with a great resistance.

2°. If, though the resistance be trifling, the electromotive force be so small that the current is very weak.

3. If copper have a conductibility of 38, what is the numerical value of the resistance of a copper wire, 3 millimetres thick and 400 metres long; if the section of a wire, one millimetre thick, be taken as the unit of section, and one metre as the unit of length?

4. Account for the motion of the electrical fly-wheel.

5. Enumerate the various acts of induction which go on, while a bent wire is vibrating over the edge of a charged fulminating plane.

6. What is the law of the force of torsion? Describe the torsion-balance of Coulomb, and state how it has been applied to determine the distribution of an electric charge over the surface of a conductor.

7. Give a general account of diamagnetism, and mention some of the more important diamagnetic bodies.

8. Explain the necessity for an analyzer in examining the rings seen in sections of crystals.

9. What did Newton mean by fits of difficult and easy transmission; and how did he measure them?

10. What experiments force us to receive as part of the wave theory, that a vast number of waves succeed each other, vibrating in the same direction, even when the light is unpolarized?

11. Part of a vibration is sometimes gained or lost in some cases of reflection. In what cases, and from what experiments do we know it?

12. How is it proved that ice produces vapour of a sensible tension, even at the zero of Fahrenheit's scale?

13. Give a full account of the method of determining the latent heats of vapours, and of the corrections to be applied to the direct results of observation.

14. Describe experiments which prove that heat is susceptible of polarization.

15. State the circumstances under which hoar frost will be produced, and the conditions which will render it a black frost.

24th September, 1857.—*Afternoon.*

CHEMISTRY.—*Examiner, Thos. H. Rowney*, PH.D.

1. Describe Wills' method for determining nitrogen in an organic body.

2. Give the different views of the constitution of alcohol and ether.

3. Give an explanation, and some examples, of catalysis.

4. Describe the preparation and properties of anhydrous nitric acid.

5. Give the general properties of the alcohols.

6. Describe the preparation and properties of mercaptan.

7. Give Graham's law for the diffusion of gases.

8. Explain the term allotrophy.

9. Give, shortly, Dumas' opinions on the relations of certain groups of the elementary bodies.

10. Give a short description of the constitution, properties, and uses of the atmosphere.

11. Describe and explain the experiment of freezing water in a red hot platinum crucible.

12. Give the general characters of chemical affinity.

13. Describe the preparation, properties, and uses of sulphurous acid.

25th September, 1857.—*Morning.*

ZOOLOGY.—*Examiner, Professor W. Smith*, F.L.S.

1. Give a brief description of the typical modes of circulation throughout the animal series.

2. What is meant by specialization of organs and functions? Give illustrative examples in the process of respiration, and show how such specialization affects rank.

3. On what grounds are the Polyzoa separated from the Polypi, and what is their correct position in the animal scale?

4. Refer the following families, viz., Merulidæ, Ardeidæ, Laridæ, and Picidæ, to their respective orders in the Class Aves.

BOTANY.

1. Describe the ordinary structure and functions of leaves.

2. Mention the different kinds of placentation occurring in phanerogamous plants, and give illustrative examples.

3. Refer the plants before you to their classes and orders in the Natural and Linnæan systems, and give brief diagnoses of their generic and specific characters.

4. Define the ocean "zones of depth" as established by Forbes, and give the characteristic forms of the flora of each.

25th September, 1857.—*Afternoon.*

ELEMENTS OF GEOLOGY, PALÆONTOLOGY, PHYSICAL GEOGRAPHY, MINERALOGY, AND CRYSTALLOGRAPHY.

Examiner, Professor William King.

1. Give a synoptical table of the various sedimentary rocks, grouping them in three columns; the first to contain the "classes" into which they are divided; the second, the "systems;" and the third the "formations."

2. Name some of the characteristic fossils of the various "systems;" and state the classes to which the genera *productus, gryphæa, pleurotomaria, ammonites*, and *conularia* respectively belong.

3. Name the principal British and Irish localities where the various "formations" occur.

4. Describe the origin and general characters of igneous, metamorphic, and sedimentary rocks; and mention examples of the principal kinds of each.

5. Account for the low temperature which prevailed in this region during the "glacial period."

6. On what grounds do you explain the climatic differences between the eastern and western shores of the North Atlantic?

7. Name those minerals representing the scale of hardness.

8. State what you know respecting the cleavage of minerals, the jointed structure of rocks, and the fissility of slates.

9. Describe the principal minerals forming granitic rocks.

10. Describe calcite, fluor spar, gypsum, a zeolite, and corundum.

11. Describe the axial systems of minerals; at the same time mention a mineral type for each; and state any thing you are acquainted with respecting another axial system only known to occur in an artificial salt.

Appendix II.

Examination for the Degree of A.B.

Group A. (compulsory).

EXAMINATION FOR THE DEGREE OF A.B.

15th September, 1857.—*Morning.*

LATIN.—*Examiner, Bunnell Lewis*, A.M.

Translate any two of the following extracts :—

VIRGIL—ÆNEID, BOOK III.

Postquam res Asiae Priamique evertere gentem
Immeritam visum superis, ceciditque superbum
Ilium et omnis humo fumat Neptunia Troia;
Diversa exsilia et desertas quaerere terras
Auguriis agimur divûm, classemque sub ipsa
Antandro et Phrygiae molimur montibus Idae,
Incerti, quo fata ferant, ubi sistere detur,
Contrahimusque viros. Vix prima inceperat aestas,
Et pater Anchises dare fatis vela iubebat;
Litora quum patriae lacrimans portusque relinquo
Et campos, ubi Troia fuit. Feror exsul in altum
Cum sociis natoque Penatibus et magnis dis.

HORACE—SATIRES.

Cervius iratus leges minitatur et urnam,
Canidia Albuti, quibus est inimica, venenum,
Grande malum Turius, si quid se iudice certes.
Ut, quo quisque valet, suspectos terreat, utque
Imperet hoc natura potens, sic collige mecum.
Dente lupus, cornu taurus petit: unde, nisi intus
Monstratum? Scaevae vivacem crede nepoti
Matrem: nil faciet sceleris pia dextera;-mirum,
Ut neque calce lupus quemquam neque dente petit bos;-
Sed mala tollet anum vitiato melle cicuta.

HORACE—EPISTLES.

Villice silvarum et mihi me reddentis agelli,
Quem tu fastidis, habitatum quinque focis et
Quinque bonos solitum Variam dimittere patres,
Certemus, spinas animone ego fortius an tu
Evellas agro, et melior sit Horatius an res.
Me quamvis Lamiae pietas et cura moratur,
Fratrem maerentis, rapto de fratre dolentis
Insolabiliter; tamen istuc mens animusque
Fert et amat spatiis obstantia rumpere claustra.
Rure ego viventem, tu dicis in urbe beatum:
Cui placet alterius, sua nimirum est odio sors.

SALLUST—JUGURTHA.

Sed in ea difficultate Metellum non minus quam in rebus hostilibus magnum et sapientem virum fuisse comperior, tanta temperantia inter ambitionem saevitiamque moderatum. Namque edicto primum adiumenta ignaviae sustulisse, ne quisquam in castris panem aut quem alium coctum cibum venderet, ne lixae exercitum sequerentur, ne miles gregarius in castris neve in agmine servum aut iumentum haberet; ceteris arte modum statuisse. Praeterea transvorsis itineribus quotidie castra movere, iuxta ac si hostes adessent, vallo atque fossa munire, vigilias crebras ponere et eas ipse cum legatis circumire; item in agmine in primis modo, modo in postremis, saepe in medio adesse, ne quisquam ordine egrederetur, uti cum signis frequentes incederent, miles cibum et arma portaret. Ita prohibendo a delictis magis quam vindicando exercitum brevi confirmavit.

TERENCE—ADELPHI.

H. Pro di immortales! facinus indignum, Geta:
Quid narras? G. Sic est factum. H. Ex illan' familia
Tam illiberale facinus esse ortum? O Æschine,
Pol haud paternum istuc dedisti. D. Videlicet
De psaltria hac audivit: id illi nunc dolet
Alieno: pater is nihili pendit. hei mihi!
Utinam hic prope adesset alicubi, atque audiret hæc!
H. Ni facient, quæ illos æquum est, haud sic auferent.
G. In te spes omnis, Hegio, nobis sita est:
Te solum habemus: tu es patronus, tu parens:
Ille tibi moriens nos commendavit senex.
Si deseris tu, periimus. H. Cave dixeris:
Neque faciam, neque me satis pie posse arbitror.

TERENCE—PHORMIO.

Amicus summus meus et popularis Geta
Heri ad me venit: erat ei de ratiuncula
Jam pridem apud me reliqüum pauxillulum
Nummorum: id ut conficerem. confeci, affero.
Nam herilem filium ejus duxisse audio
Uxorem: ei credo munus hoc corraditur.
Quam inique comparatum est; hi qui minus habent,
Ut semper aliquid addant divitioribus!
Quod ille unciatim vix de demenso suo,
Suum defrudans genium comparsit miser,
Id illa universum abripiet; haud existimans
Quanto labore partum.

CICERO—ORAT. II. IN CATILINAM.

At etiam sunt qui dicant, Quirites, a me in exsilium eiectum esse Catilinam. Quod ego si verbo adsequi possem, istos ipsos eiicerem, qui haec loquuntur. Homo enim videlicet timidus aut etiam permodestus vocem consulis ferre non potuit: simul atque ire in exsilium iussus est, paruit. Quid? ut, hesterno die, Quirites, quum domi meae paene interfectus essem, senatum in aedem Iovis Statoris convocavi, rem omnem ad patres conscriptos detuli: quo quum Catilina venisset, quis eum senator appellavit? quis salutavit? quis denique ita aspexit ut perditum civem ac non potius ut importunissimum hostem? quin etiam principes eius ordinis partem illam subselliorum, ad quam ille accesserat, nudam atque inanem reliquerunt. Hic ego vehemens ille consul, qui verbo cives in exsilium eiicio, quaesivi a Catilina in nocturno conventu apud M. Laecam fuisset necne.

TACITUS—AGRICOLA.

Revertentem ab legatione legionis divus Vespasianus inter patricios ascivit; ac deinde provinciae Aquitaniae praeposuit, splendidae inprimis dignitatis administratione ac spe consulatus, cui destinarat. Credunt plerique militaribus ingeniis subtilitatem deesse, quia castrensis iurisdictio secura et obtusior ac plura manu agens calliditatem fori non exerceat. Agricola naturali prudentia, quamvis inter togatos, facile iusteque agebat. Iam vero tempora curarum remissionumque divisa. Ubi conventus ac indicia poscerent, gravis, intentus, severus, et saepius misericors: ubi officio satisfactum, nulla ultra potestatis persona. Tristitiam et adrogantiam et avaritiam exuerat; nec illi, quod est rarissimum, aut facilitas auctoritatem aut severitas amorem deminuit.

TACITUS—GERMANIA.

Suscipere tam inimicitias seu patris seu propinqui quam amicitias necesse est. Nec inplacabiles durant: luitur enim etiam homicidium certo armentorum ac pecorum numero, recipitque satisfactionem universa domus, utiliter in publicum, quia periculosiores sunt inimicitiae iuxta libertatem.

Convictibus et hospitiis non alia gens effusius indulget. Quemcumque mortalium arcere tecto nefas habetur; pro fortuna quisque apparatis epulis excipit. Cum defecere, qui modo hospes fuerat, monstrator hospitii et comes: proximam domum non invitati adeunt. Nec interest: pari humanitate accipiuntur.

1. Write short notes on the passages which you have translated, wherever a various reading, proper name, derivation, or construction, may require explanation.
2. State and exemplify the laws of the Elegiac metre.
3. Name the perfects and supines of fremo, scando, jubeo, quæro, premo, vello, maneo, flecto, tollo, eo.
4. How are frequentative, desiderative, and inceptive verbs formed in Latin?
5. Describe the situation of the following places:—Ariminum, Canopus, Cirta, Hippo Regius, Corduba, Eboracum, Lugdunum Batavorum. Give the corresponding modern names.
6. Explain the terms, nomen, prænomen, cognomen, and agnomen. How was the name changed in adoption?
7. Give an account of the Mithridatic Wars, with

dates; and mention the principal events which occurred in Italy during this period.

8. Re-translate into Latin:—

There is a certain intemperate degree of affection towards one's friends, which it is necessary to restrain; as the indulging of it has frequently, and in very important situations, proved extremely prejudicial to their interest. To exemplify my meaning by an instance from ancient story: Neoptolemus would never have had the glory of taking Troy, had his friend Lycomedes, in whose court he had been educated, succeeded in his too warm and earnest solicitations not to hazard his person in that famous expedition.

15th September, 1857.—*Afternoon.*

GREEK.—*Examiner, Charles MacDouall*, A.M.

I.—Translate, accurately, any two of the following extracts:—

1. HOMERUS—*Ilias*, IV., vv. 374–398.

ὣς φάσαν οἳ μιν ἴδοντο πονεύμενον· οὐ γὰρ ἔγωγε
ἤντησ' οὐδὲ ἴδον· περὶ δ' ἄλλων φασὶ γενέσθαι.
ἦτοι μὲν γὰρ ἄτερ πολέμου εἰςῆλθε Μυκήνας
ξεῖνος ἅμ' ἀντιθέῳ Πολυνείκεϊ, λαὸν ἀγείρων,
οἵ ῥα τότ' ἐστρατόωνθ' ἱερὰ πρὸς τείχεα Θήβης.
καί ῥα μάλα λίσσοντο δόμεν κλειτοὺς ἐπικούρους.
οἱ δ' ἔθελον δόμεναι καὶ ἐπήνεον ὡς ἐκέλευον·
ἀλλὰ Ζεὺς ἔτρεψε παραίσια σήματα φαίνων.
οἱ δ' ἐπεὶ οὖν ᾤχοντ' ἠδὲ πρὸ ὁδοῦ ἐγένοντο,
Ἀσωπὸν δ' ἵκοντο βαθύσχοινον λεχεποίην,
ἔνθ' αὖτ' ἀγγελίην ἔπι Τυδῆ στεῖλαν Ἀχαιοί.
αὐτὰρ ὁ βῆ, πολέας δὲ κιχήσατο Καδμείωνας
δαινυμένους κατὰ δῶμα βίης Ἐτεοκληείης.
ἔνθ' οὐδέ, ξεῖνός περ ἐών, ἱππηλάτα Τυδεὺς
τάρβει, μοῦνος ἐὼν πολέσιν μετὰ Καδμείοισιν·
ἀλλ' ὅγ' ἀεθλεύειν προκαλίζετο, πάντα δ' ἐνίκα
ῥηϊδίως· τοίη οἱ ἐπίρροθος ἦεν Ἀθήνη.
οἱ δὲ χολωσάμενοι Καδμεῖοι, κέντορες ἵππων,
ἆψ οἱ ἀνερχομένῳ πυκινὸν λόχον εἶσαν ἄγοντες
κούρους πεντήκοντα· δίω δ' ἡγήτορε ἦσαν,
Μαίων Αἱμονίδης, ἐπιείκελος ἀθανάτοισιν,
υἱός τ' Αὐτοφόνοιο, μενεπτόλεμος Πολυφόντης.
Τυδεὺς μὲν καὶ τοῖσιν ἀεικέα πότμον ἐφῆκεν·
πάντας ἔπεφν', ἕνα δ' οἷον ἴει οἴκονδε νέεσθαι·
Μαίον' ἄρα προέηκε, θεῶν τεράεσσι πιθήσας.

2. ÆSCHYLUS—*Prometheus Vinctus*, vv. 673–700.

τοιοῖσδε πάσας εὐφρόνας ὀνείρασι
ξυνειχόμην δυστηνος, ἕρτε δὴ πατρὶ
ἕτλην γεγωνεῖν νυκτίφαντ' ὀνείρατα.
ὁ δ' ἔς τε Πυθὼ κἀπὶ Δωδώνης πυκνοὺς
θεοπρόπους ἴαλλεν, ὡς μάθοι τί χρὴ
δρῶντ' ἢ λέγοντα δαίμοσιν πράσσειν φίλα.
ἦκον δ' ἀναγγέλλοντες αἰολοστόμους
χρησμοὺς ἀσήμους δυσκρίτως τ' εἰρημένους.
τέλος δ' ἐναργὴς βάξις ἦλθεν Ἰνάχῳ
σαφῶς ἐπισκήπτουσα καὶ μυθουμένη
ἔξω δόμων τε καὶ πάτρας ὠθεῖν ἐμέ,
ἄφετον ἀλᾶσθαι γῆς ἐπ' ἐσχάτοις ὅροις·
κεἰ μὴ θέλοι, πυρωπὸν ἐκ Διὸς μολεῖν
κεραυνόν, ὃς πᾶν ἐξαϊστώσοι γένος.
τοιοῖσδε πεισθεὶς Λοξίου μαντεύμασιν
ἐξήλασέν με κἀπέκλῃσε δωμάτων
ἄκουσαν ἄκων· ἀλλ' ἐπηνάγκαζέ νιν
Διὸς χαλινὸς πρὸς βίαν πράσσειν τάδε.
εὐθὺς δὲ μορφὴ καὶ φρένες διάστροφοι
ἦσαν, κεραστὶς δ', ὡς ὁρᾶτ', ὀξυστόμῳ
μύωπι χρισθεῖσ' ἐμμανεῖ σκιρτήματι
ᾔσσον πρὸς εὔποτόν τε Κερχνείας ῥέος
ἀκτήν τε Λέρνης· βουκόλος δὲ γηγενὴς
ἄκρατος ὀργὴν Ἄργος ὠμάρτει, πυκνοῖς
ὄσσοις δεδορκώς, τοὺς ἐμοὺς κατὰ στίβους.
ἀπροςδόκητος δ' αὐτὸν ἀφνίδιος μόρος
τοῦ ζῆν ἀπεστέρησεν. οἰστροπλὴξ δ' ἐγὼ
μάστιγι θείᾳ γῆν πρὸ γῆς ἐλαύνομαι.

3. EURIPIDES—*Medea*, vv. 227–249.

ἐμοὶ δ' ἄελπτον πρᾶγμα προςπεσὸν τόδε
ψυχὴν διέφθαρκ'· οἴχομαι δέ, καὶ βίου
χάριν μεθεῖσα κατθανεῖν χρῄζω, φίλαι!
ἐν ᾧ γὰρ ἦν μοι πάντα γιγνώσκειν καλά,
κάκιστος ἀνδρῶν ἐκβέβηχ' οὐμὸς πόσις.
πάντων δ', ὅσ' ἔστ' ἔμψυχα καὶ γνώμην ἔχει,
γυναῖκές ἐσμεν ἀθλιώτατον φυτόν·
ἃς πρῶτα μὲν δεῖ χρημάτων ὑπερβολῇ
πόσιν πρίασθαι δεσπότην τε σώματος
λαβεῖν· κακοῦ δὲ τοῦτ' ἔτ' ἄλγιον κακόν,—
κἀν τῷδ' ἀγὼν μέγιστος,—ἢ κακὸν λαβεῖν
ἢ χρηστόν. οὐ γὰρ εὐκλεεῖς ἀπαλλαγαὶ
γυναιξίν, οὐδ' οἷόν τ' ἀνήνασθαι πόσιν.
εἰς καινὰ δ' ἦθη καὶ νόμους ἀφιγμένην
δεῖ μάντιν εἶναι, μὴ μαθοῦσαν οἴκοθεν,
οἵῳ μάλιστα χρήσεται ξυνευνέτῃ.
κἂν μὲν τάδ' ἡμῖν ἐκπονουμέναισιν εὖ
πόσις ξυνοικῇ, μὴ βίᾳ φέρων ζυγόν,
ζηλωτὸς αἰών· εἰ δὲ μή, θανεῖν χρεών.
ἀνὴρ δ' ὅταν τοῖς ἔνδον ἄχθηται ξυνών,
ἔξω μολὼν ἔπαυσε καρδίαν ἄσης,
ἢ πρὸς φίλων τιν' ἢ πρὸς ἥλικας τραπείς·
ἡμῖν δ' ἀνάγκη πρὸς μίαν ψυχὴν βλέπειν.

4. HERODOTUS, I., c. 30.

μετὰ δέ, ἡμέρῃ τρίτῃ ἢ τετάρτῃ, κελεύσαντος Κροίσου, τὸν Σόλωνα θεράποντες περιῆγον κατὰ τοὺς θησαυρούς, καὶ ἐπεδείκνυσαν πάντα ἐόντα μεγάλα τε καὶ ὄλβια. θηησάμενον δέ μιν τὰ πάντα καὶ σκεψάμενον, ὡς οἱ κατὰ καιρὸν ἦν, εἴρετο ὁ Κροῖσος τάδε· "ξεῖνε Ἀθηναῖε, παρ' ἡμέας γὰρ περὶ σέο λόγος ἀπῖκται πολλός, καὶ σοφίης εἵνεκεν τῆς σῆς καὶ πλάνης, ὡς φιλοσοφέων γῆν πολλὴν θεωρίης εἵνεκεν ἐπελήλυθας· νῦν ὦν ἵμερος ἐπείρεσθαί μοι ἐπῆλθε, εἴ τινα ἤδη πάντων εἶδες ὀλβιώτατον." ὁ μὲν ἐλπίζων εἶναι ἀνθρώπων ὀλβιώτατος ταῦτα ἐπειρώτα. Σόλων δέ, οὐδὲν ὑποθωπεύσας ἀλλὰ τῷ ἐόντι χρησάμενος, λέγει· "ὦ βασιλεῦ, Τέλλον Ἀθηναῖον." ἀποθωυμάσας δὲ Κροῖσος τὸ λεχθὲν εἴρετο ἐπιστρεφέως· "κοίῃ δὴ κρίνεις Τέλλον εἶναι ὀλβιώτατον;" ὁ δὲ εἶπε· "Τέλλῳ, τοῦτο μέν, τῆς πόλιος εὖ ἠκούσης, παῖδες ἦσαν καλοί τε καἀγαθοί, καὶ σφι εἶδε ἅπασι τέκνα ἐκγενόμενα καὶ πάντα παραμείναντα· τοῦτο δέ, τοῦ βίου εὖ ἥκοντι, ὡς τὰ παρ' ἡμῖν, τελευτὴ τοῦ βίου λαμπροτάτη ἐπεγένετο· γενομένης γὰρ Ἀθηναίοισι μάχης πρὸς τοὺς ἀστυγείτονας ἐν Ἐλευσῖνι, βοηθήσας καὶ τροπὴν ποιήσας τῶν πολεμίων, ἀπέθανε κάλλιστα, καί μιν Ἀθηναῖοι δημοσίῃ τε ἔθαψαν αὐτοῦ, τῇ περ ἔπεσε, καὶ ἐτίμησαν μεγάλως

5. XENOPHON—*Anabasis*, III., c. 3, §§ 7–11.

καὶ προςῄει μὲν ὡς φίλος ὢν πρὸς τοὺς Ἕλληνας· ἐπεὶ δὲ ἐγγὺς ἐγένοντο, ἐξαπίνης οἱ μὲν αὐτῶν ἐτόξευον, καὶ ἱππεῖς καὶ πεζοί, οἱ δ' ἐσφενδόνων καὶ ἐτίτρωσκον. οἱ δὲ ὀπισθοφύλακες τῶν Ἑλλήνων ἔπασχον μὲν κακῶς, ἀντεποίουν δὲ οὐδέν· οἵ τε γὰρ Κρῆτες βραχύτερα τῶν Περσῶν ἐτόξευον, καὶ ἅμα, ψιλοὶ ὄντες, εἴσω τῶν ὅπλων κατεκέκλειντο, οἵ τε ἀκοντισταὶ βραχύτερα ἠκόντιζον ἢ ὡς ἐξικνεῖσθαι τῶν σφενδονητῶν. ἐκ τούτου Ξενοφῶντι ἐδόκει διωκτέον εἶναι· καὶ ἐδίωκον τῶν τε ὁπλιτῶν καὶ τῶν πελταστῶν οἳ ἔτυχον σὺν αὐτῷ ὀπισθοφυλακοῦντες· διώκοντες δὲ οὐδένα κατελάμβανον τῶν πολεμίων. οὔτε γὰρ ἱππεῖς ἦσαν τοῖς Ἕλλησιν, οὔτε οἱ πεζοὶ τοὺς πεζοὺς ἐκ πολλοῦ φεύγοντας ἐδύναντο καταλαμβάνειν ἐν ὀλίγῳ χωρίῳ· πολὺ γὰρ οὐχ οἷόν τε ἦν ἀπὸ τοῦ ἄλλου στρατεύματος διώκειν. οἱ δὲ βάρβαροι ἱππεῖς καὶ φεύγοντες ἅμα ἐτίτρωσκον εἰς τοὔπισθεν τοξεύοντες ἀπὸ τῶν ἵππων· ὁπόσον δὲ προδιώξειαν οἱ Ἕλληνες, τοσοῦτον πάλιν ἐπαναχωρεῖν μαχομένους ἔδει. ὥςτε τῆς ἡμέρας ὅλης διῆλθον οὐ πλέον πέντε καὶ εἴκοσι σταδίων, ἀλλὰ δείλης ἀφίκοντο εἰς τὰς κώμας.

APPENDIX II.

Examination for the Degree of A.B.

Group A. (compulsory).

6. LUCIANUS—*Cataplus*, §§ 1–2.

ΧΑΡΩΝ. εἶεν, ὦ Κλωθοῖ! τὸ μὲν σκάφος τοῦτο ἡμῖν πάλαι εὐτρεπὲς καὶ πρὸς ἀναγωγὴν εὖ μάλα παρεσκευασμένον· ὅ τε γὰρ ἄντλος ἐκκέχυται, καὶ ὁ ἱστὸς ὥρθωται, καὶ ἡ ὀθόνη παρακέκρουσται, καὶ τῶν κωπῶν ἑκάστη τετρόπωται· κωλύει τε οὐδέν, ὅσον ἐπ' ἐμοί, τὸ ἀγκύριον ἀνασπάσαντας ἀποπλεῖν. ὁ δὲ Ἑρμῆς βραδύνει, πάλαι παρεῖναι δέον· κενὸν γοῦν ἐπιβατῶν, ὡς ὁρᾷς, τὸ πορθμεῖον, τρὶς ἤδη τήμερον ἀναπεπλευκέναι δυνάμενον. καὶ σχεδὸν ἀμφὶ βουλυτόν ἐστιν, ἡμεῖς δὲ οὐδέπω οὐδὲ ὀβολὸν ἐμπεπολήκαμεν. εἶτα ὁ Πλούτων εὖ οἶδ' ὅτι ἐμὲ ῥᾳθυμεῖν ἐν τούτοις ὑπολήψεται, καὶ ταῦτα παρ' ἄλλῳ οὔσης τῆς αἰτίας. ὁ δὲ καλὸς ἡμῖν κἀγαθὸς νεκροπομπός, ὥςπερ τις ἄλλος, καὶ αὐτὸς τὸ τῆς ἄνω Λήθης ὕδωρ πεπωκὼς ἀναστρέψαι πρὸς ἡμᾶς ἐπιλέλησται· καὶ ἤτοι παλαίει μετὰ τῶν ἐφήβων, ἢ κιθαρίζει, ἢ λόγους τινὰς διεξέρχεται ἐπιδεικνύμενος τὸν λῆρον τὸν αὐτοῦ, ἢ τάχα που καὶ κλωπεύει ὁ γεννάδας παρελθών· μία γὰρ αὐτοῦ καὶ αὕτη τῶν τεχνῶν. ὁ δ' οὖν ἐλευθεριάζει πρὸς ἡμᾶς, καὶ ταῦτα ἐξ ἡμισείας ἡμέτερος ὤν.

ΚΛΩΘΩ. Τί δέ; οἶδας, ὦ Χάρων! εἴ τις ἀσχολία προςέπεσεν αὐτῷ, τοῦ Διὸς ἐπὶ πλέον δεηθέντος ἀποχρήσασθαι πρὸς τὰ ἄνω πράγματα; δεσπότης δὲ κἀκεῖνός ἐστιν.

ΧΑΡΩΝ. Ἀλλ' οὐχ ὥςτε, ὦ Κλωθοῖ! πέρα τοῦ μετρίου δεσπόζειν κοινοῦ κτήματος, ἐπεὶ οὐδ' ἡμεῖς ποτε αὐτόν, ἀπιέναι δέον, κατεσχήκαμεν. ἀλλ' ἐγὼ οἶδα τὴν αἰτίαν· παρ' ἡμῖν μὲν γὰρ ἀσφόδελος μόνον καὶ χοαὶ καὶ πόπανα καὶ ἐναγίσματα, τὰ δ' ἄλλα ζόφος καὶ ὁμίχλη καὶ σκότος, ἐν δὲ τῷ οὐρανῷ φαιδρὰ πάντα, καὶ ἥ τε ἀμβροσία πολλὴ καὶ τὸ νέκταρ ἄφθονον· ὥςτε μοι ἥδιον παρ' ἐκείνοις βραδύνειν ἔοικε. καὶ παρ' ἡμῶν μὲν ἀνίπταται καθάπερ ἐκ δεσμωτηρίου τινὸς ἀποδιδράσκων· ἐπειδὰν δὲ καιρὸς κατιέναι, σχολῇ καὶ βάδην μόλις ποτὲ κατέρχεται.

II.—1. Annex to your translation of any passage very concise notes upon such points as may appear chiefly to require elucidation.

2. Draw a chart, exhibiting, in outline, the Peloponnesos, Hellas Proper, Thessalia, and Southern Epeiros, with the principal Isles of the Ægæan and Ionian Seas; marking all the more important mountains and rivers, with their names modern as well as ancient; and inserting at least the ancient names of the chief cities in Laconia, Arcadia, Achaia, Argolis, Megaris, Attica, Bœotia, Phocis, Eubœa, Lesbos, Rhodos, Creta.

3. Name, in chronological order, the Hellenic writers, not later than the death of Alexander the Great, most distinguished (A) in poetry, whether (*a*) epic, or (*b*) didactic or gnomic, or (*c*) lyric, or (*d*) tragic, or (*e*) comic; and (B) in prose, whether (*a*) historical, or (*b*) rhetorical, or (*c*) ethical and philosophical.

4. State the fundamental laws of verse, (*a*) dactylic hexameter, according to the Homeric model, and (*b*) iambic trimeter, as used in tragedy.

5. Write out the Greek prepositions, subjoining to each the case or cases governed by it, and the different shades of meaning presented by each in its different constructions.

6. (*a*) Write out the Greek numerals, cardinal, ordinal, and adverbial, as far as *twenty*. (*b*) Decline, throughout all cases and numbers, the words for *one*, *two*, *three*, distinguishing Homeric, Herodotean, and Attic forms.

7. Parse fully the following words:—*νοῦν*, *τρίχα*, *αἰδῶ*, *πόλῐ* and *πόλī*, *μελαίναιν*, *χρυσᾶ*, *ποσίν*, *γόνασι*, *τετυφότα*, *νῶϊ*, *σφῷν* and *σφῶν*, *αὐτῷ* and *αὐτῷ*, *ὦ οὗτος*, *ὅτῳ*, *ἄττα*, *θάτερον*.

8. Parse fully the following words, giving the principal tenses of each where you believe them to be actually used in Attic Greek, and the synonymes from other verbal roots which you know to come in place of such forms as are not so used:—*στρέφει*, *ἔτρεπες*, *ἔστελλον*, *ἔτειναν*, *ἔπλησαν*, *εἶπεν*, *πέπονθε*, *βαλεῖ*, *καμεῖ* or *καμῇ*, *λάθοι*, *λαβέ*, *σχές*, *δός*, *ἀδεῖν*, *θανεῖν*, *πεσεῖν*, *γνῶναι*, *εἰδέναι*, *ἕληται*, *ἀκούσεται*, *ὀμεῖται*, *ἔροιτο*, *ἔρρωσθε*, *πτέσθαι*, *ὄψεσθαι*, *δείσεσθαι*, *ἐστί*, *εἰσί*, *εἶσι*, *ἴασι*, *ἴθι*, *ἴσθι*.

16*th September* 1857.—*Morning.*

MODERN LANGUAGES.

Examiner, Professor De Vericour.

FRENCH.

Translate into English:—

I.

L'homme est citoyen de deux mondes, d'un monde matériel et d'un monde moral, d'un monde visible et d'un monde invisible, d'un monde mobile et d'un monde durable. Cette condition mixte explique en partie les contrastes qui se manifestent en lui. C'est surtout dans ses rapports avec le monde extérieur qu'il se reconnait passif; c'est surtout dans ses rapports avec la région du sentiment et de la pensée qu'il se reconnaît actif; dans les uns il reçoit, dans les autres il produit; et c'est pourquoi le premier ordre de rapports sert au deuxième de prélude. Cependant, l'homme réagit sur le monde matériel par les opérations des arts, comme ensuite il se soumet, volontairement, dans le monde moral, à une dépendance éclairée, en rendant hommage aux lois qui gouvernent la nature.—*De Gérando.*

II.

L'esprit humain est exposé à des maladies fort diverses: il a des accès de fièvre, de vertige, de délire; il a aussi des intervalles de langueur, d'affaissement, tantôt dans des temps de désordre, tantôt dans des siècles de bien-être matériel; et ces dernières défaillances ne sont pas les moins dangereuses. Mais on ne peut craindre que le malade périsse, car le malade est immortel.—*J. J. Ampère.*

GERMAN.

Translate into English:—

I.

Der Rauchgenuß iſt einer der unbegreiflichſten. Etwas unkörperliches, ſchmutziges, beißendes, übelriechendes, kann ein ſolcher Lebensgenuß, ja ein ſolches Lebensbedürfniß werden, daß es Menſchen giebt, die nicht eher munter, vergnügt und lebensfroh werden, ja die nicht eher denken und arbeiten können, als bis ſie Rauch durch Mund und Naſe ziehen. Ja, man erzählt von einem Schwediſchen Hauptmanne im ſiebenjährigen Kriege, der in Ermangelung des Tabaks Stroh in die Pfeife ſtopfte, und verſicherte, dies ſei alles einerlei, wenn er nur Rauch unter der Naſe ſähe, ſo wäre er zufrieden.—Ich will hier nichts von dieſen Vorzügen weiter ſagen, denn die würden ſie doch nicht begreifen, die keine Tabaksraucher ſind. Und unentbehrlich zum Wohlſein und zur Glückſeligkeit ſind ſie nicht, denn wir ſehen die, die nicht rauchen, eben ſo heiter, eben ſo glücklich, eben ſo geſund, ja noch geſunder. Aber ich muß etwas von den Nachtheilen ſagen, die dieſe Gewohnheit hat, beſonders um der jungen Leute willen, die dieſes Buch leſen, und die noch die freie Wahl haben, ſie anzunehmen oder nicht. Das Tabaksrauchen verdirbt die Zähne, trocknet den Körper aus, macht mager und blaß, ſchwächt Augen und Gedächtniß, zieht das Blut nach Kopf und Lunge, disponirt daher zu Kopfbeſchwerden und Bruſtkrankheiten, und kann denen, die hectiſche Anlage haben, Bluthuſten und Lungenſucht zuziehen. Ueberdies giebt es ein Bedürfniß mehr, und je mehr ein Menſch Bedürfniſſe hat, deſto mehr wird ſeine Freiheit und Glückſeligkeit eingeſchränkt. Ich warne daher jedermann dafür und werde mich ſehr freuen, wenn ich hierdurch etwas zur Verminderung dieſer üblen Sitte (die, wie ich mit Freuden bemerke, ſchon ſehr abnimmt) beitragen kann.

Hufeland.

II.

Die Augen gingen ihm über,
Wie wird mir?
Er iſt gelehrt und doch beſcheiden.
Der König nahm ſich ſeiner an.

ITALIAN.

Translate into English :—

I.

L'Italia è la terra della musica, e della luce. Trasportiamoci sulle sponde dell' Adriatico quando il Sole apparisce sull' orizzonte : scendiamo in riva del Tirreno allor che tramonta : e vediamo se vi ha cielo, che diffuso di serenità rida d'un azzurro più puro. Saliamo in vetta dell' Apennino e dell' Alpe : e tra il fragore degli Aquiloni, che van contrastando co' cerri, udiamo il rimbalzare delle onde, che si precipitano negli abissi : aggiriamoci su' colli ridenti di Posilipo e di Careggi, al tepente spirar degli Zeffiri, e al mormorar soave dei ruscelli, che ne fecondano le falde ; e neghiamo che la natura sparso abbia in questa felice contrada quella varietà d' accordi e di suoni, che fu il principio dell' Armonia.

II.

Italia, Italia, o tu, cui feo la sorte
Dono infelice di bellezza, ond' hai
Funesta dote d' infiniti guai
Che'n fronte scritti per tua doglia porte.
Oh ! fossi tu men bella, o almen più forte,
Onde assai più ti paventasse, o assai
T' amasse men, chi del tuo bello ai rai
Par che si strugga, et pur ti sfida a morte ;
Che giù dall' Alpi non vedrei torrenti
Scender d' armati, nè di sangue tinta
Bever l'onda del Pò gallici armenti.
Nè te vedrei del non tuo ferro cinta
Pugnar col braccio di straniere genti,
Per servir, sempre, o vincitrice o vinta.—*Filicaja.*

Translate into French, or German, or Italian :—

The most illustrious ornament of the reign of Edward the Third, and of his successor, Richard the Second, was Geoffrey Chaucer ; a poet with whom the history of our poetry is by many supposed to have commenced, and who has been pronounced by a critic of unquestionable taste and discernment, Dr. Johnson, to be the first English versifier who wrote poetically. He was born in the year 1328, and educated at Oxford, where he made a rapid progress in the scholastic sciences, as they were then taught : but the liveliness of his parts, and the native gaiety of his disposition, soon recommended him to the patronage of a magnificent monarch, and rendered him a very popular and acceptable character in the brilliant court which I have above described. In the mean time, he added to his accomplishments by frequent tours in France and Italy, which he sometimes visited under the advantages of a public character.—*Warton.*

17*th September*, 1857.—*Morning.*

MATHEMATICS.

Examiner, George Boole, LL.D., F.R.S.

1. Give Euclid's definition, and also the arithmetical definition of ratio. Which of the two is the more definite and specific in character ? Express, in their simplest forms, the arithmetical values of the following ratios, viz., $6 : 3$, $9 : 2\frac{1}{4}$, $15\frac{1}{2} : 10\frac{1}{3}$.

2. Explain what is meant by proportion in the science of arithmetic. The first term of a proportion being 9, the second, 12, and the fourth, $5\frac{3}{5}$, find the third term.

3. Reduce to their simplest values the following fractional expressions, viz. :—

$$\tfrac{1}{2}+\tfrac{3}{4}-\tfrac{5}{8},$$
$$\tfrac{3}{5}+2\tfrac{1}{2}-\tfrac{1}{2} \text{ of } \tfrac{4}{3},$$
$$\tfrac{2}{3}\times\tfrac{3}{4}+\tfrac{4}{5} \text{ of } 20,$$
$$3\tfrac{7}{8}\div 1\tfrac{3}{4}.$$

4. Define a decimal fraction. Can the rules of decimal fractions be regarded as particular deductions from the rules of vulgar fractions ? May they also be considered as founded upon the same principles as the rules of the arithmetic of integers ; and if so, upon what ground ?

5. Reduce to their simplest values the following decimal expressions, viz. :—

$$1{\cdot}235+{\cdot}02+{\cdot}01234-{\cdot}7,$$
$${\cdot}3464\times{\cdot}00125,$$
$${\cdot}2376\div 99.$$

6. Verify the solutions of the second and third questions by vulgar fractions.

7. Calculate the value of $273\frac{1}{4}$ yards of cloth, at 17*s.* 6*d.* per yard, by the rule of proportion, and also by the method commonly known as practice.

8. Solve the same question by vulgar fractions and by decimals.

9. State, briefly, the difference between arithmetic and algebra.

10. Find the values of the expressions—

$$(x^2+y^2)^{\frac{1}{2}},\quad (4x-y)^{\frac{3}{3}},\quad \left(\frac{x+y}{x-y}\right)^3,$$

when $x=3$, $y=4$.

11. Solve the equations—

$$x+\frac{x}{2}-\frac{x}{3}=\frac{5x}{4}-\frac{1}{2},$$
$$x-\sqrt{x+1}=5,$$
$$x^2=21+\sqrt{x^2-9}.$$

12. What is meant by simultaneous equations, and what relation must exist between the number of equations given and the number of quantities which, when independent, they enable us to determine ? Explain the condition, "when independent," above referred to.

13. Solve the simultaneous equations—

$$\left.\begin{aligned} x+y&=5\\ x^2-xy+y^2&=7\end{aligned}\right\}\qquad \left.\begin{aligned} \text{Also, } x+\sqrt{1-y^2}&=\frac{6}{5}\\ y+\sqrt{1-x^2}&=\frac{8}{5}\end{aligned}\right\}$$

14. Define a logarithm, and from the definition explain the use of a table of logarithms.

15. The difference of the squares of two unequal straight lines is equal to the rectangle under their sum and difference.

16. Describe a square that shall be equal to a given rectangle ; also a rectangle equal to a given square, but having its sides in a given ratio.

17. Inscribe, in a given circle, first, a regular hexagon ; secondly, a regular pentagon.

18. Equal triangles which have one angle of the one equal to one angle of the other, have their sides about the equal angles reciprocally proportional.

19. Investigate a trigonometrical expression for the area of a triangle in terms of two sides, and their included angle. Hence deduce the last proposition.

20. Investigate formulæ for the solution of the different cases of plane triangles.

21. Prove the formulæ—

$$\text{Sin. } 2\text{ A}=\frac{2\text{ tan. A}}{1+\text{tan.}^2\text{A}\cdot}$$
$$\frac{\text{Sin. A}+\text{sin. B}}{\text{Cos. A}+\text{cos. B}}=\text{tan.}\frac{\text{A}+\text{B}}{2}.$$

16*th September*, 1857.—*Afternoon.*

SPECIAL GROUP B.—ENGLISH PHILOLOGY AND CRITICISM.—*Examiner, George L. Craik*, A.M.

1. Give an account of the English Language as it existed down to the time of the Norman Conquest, in respect of the following particulars :—1. Its position and connexion in the Indo-European Family of Languages ; 2. The date when, the quarter whence, and the people by whom it was imported into Britain ; 3. The character of its grammatical system ; 4. The constitution of its vocabulary.

2. Give some account of the compositions that we still possess in this original form of the English language.

3. State the nature of the first revolution which this original English language underwent, and explain how it was brought about.

4. State in what respects the English now in use is distinguished from the original form of the language, and explain how and under what influences the one has been converted into the other.

APPENDIX II.

Examination for the Degree of A.B.

Special Group B.

5. Mention the principal works that have come down to us in the form of the English language that was in use immediately before it began to be largely intermixed with French; noticing the supposed date of each, its subject or general nature, and, if printed, when and under whose editorial care.

6. Name the principal English poets of each century, from the fourteenth to the eighteenth, inclusive; indicating briefly the departments of poetry to which their works belong.

7. Enumerate the chief English historical writers and their works; arranging them in the order of time.

8. Write a short criticism on some English literary work of the present century.

9. Write a short critical estimate of the genius of some living English author.

17th September, 1857.—*Afternoon.*

LOGIC.—*Examiner, Professor Moffett*, LL.D.

1. Define Logic, and give an outline of its early history. Distinguish the several provinces of Logic, Metaphysics, Grammar, and Rhetoric. Why have Logic and Rhetoric been denominated *instrumental* arts? In what sense does Bacon call Logic the "ars artium?"

2. Define and illustrate Simple Apprehension, Judgment, and Reasoning; and give their Aristotelian and Scholastic equivalents. Are these operations independent of each other? How far can logical rules increase their effectiveness? Distinguish *Complex* and *Incomplex* Apprehension.

3. Define Generalization, and illustrate the several processes involved in it. What process is the reverse of Generalization? Distinguish the two forms of Totality—the Logical and the Metaphysical whole—and point out the relation between them. Enumerate the Predicables, and define Species and Property. What is the earliest treatise that exhibits the existing classification of Predicables?

4. What has given rise to the opinion, that there must be some *thing* corresponding to every general term? State precisely the point in dispute between the Nominalists and Realists; and mention some of the most eminent philosophers who have taken part in this controversy.

5. Enumerate and exemplify the various kinds of Conversion. Draw up the scheme of Opposition, and explain the symbols employed.

6. The "Dictum de omni" may be deduced from the principle of Generalization, and may be so stated as to be immediately applicable to the Sorites. How is the Sorites reduced to a series of syllogisms? What are the special rules of the Sorites? They may be directly proved from the Dictum.

7. Prove that the number of universal terms in the premises must be at least *one* more than in the conclusion, and that the excess cannot be more than *two*. Is a *single* premise ever sufficient to warrant a conclusion? Give Aristotle's definition of Enthymeme.

8. Define and exemplify Figure and Mood. Name the legitimate Moods in the first figure, and show that A can be proved in this Figure only. State and prove the special rules in the second and third Figures. Define and exemplify the process of Reduction. Who was the author of the Mnemonic lines?

9. The sources of error in any argument may be reduced to three. Institute a classification of fallacies based on this analysis, and give an instance of each kind. To what head do you reduce the fallacies of "Petitio Principii," "Composition and Division?" Give instances of these fallacies. What are the fallacious modes of inference in Hypothetical syllogisms? Examine the following argument:—"If any objection that could be urged would justify a change of established laws, no laws could be maintained: but some laws can be maintained; therefore, no objection that can be urged will justify a change of established laws."

10. How do you classify those propositions, whose subjects are qualified by the terms *alone* or *few;* e.g., "Virtue alone is happiness below?" Is the following a valid syllogism:—"Every true patriot is disinterested; few men are disinterested; therefore, few men are true patriots?"

11. What is the ambiguity in the word Induction? How did Aristotle define it? Explain and exemplify what is meant by the Baconian induction. How may the inductive argument be exhibited in syllogistic form? What constitutes Bacon's chief claim to the title of "Founder of the Inductive Philosophy?" Mention some of the defects of his philosophy.

12. Define and illustrate the Indirect Method of Difference. Why is it necessary to have recourse to this method? Point out its conclusiveness as compared with that of the other Experimental Methods. To which of these methods does Sir J. Herschel allude, when he says—"It is by this process that science, in its present advanced state, is chiefly promoted?" What renders the *Deductive* Method necessary? What is Mill's analysis of this method?

17th September, 1857.—*Afternoon.*

METAPHYSICS.

Examiner, Professor Moffett, LL.D.

1. Discuss, in a short essay, the following proposition:—"La psychologie n'est assurément pas toute la philosophie, mais elle en est le fondement."

2. Define Philosophy. What is its first problem? (Hamilton.) What is meant by the argument from "Common Sense;" and who have been its most eminent expositors? What objections have been made to the *nomenclature* of this argument, and what substitutes have been proposed? What objections have been made to the *principle?* The uncritical application of this argument brought it into disrepute: this appears in the case of a celebrated controversy? Under what conditions may the argument be employed? What are the criteria of fundamental principles of thought?

3. On what subjects have the principal controversies arisen in philosophy? Define Mind and Matter. Mention some of the most remarkable hypotheses that have been devised to explain the manner in which the connexion between Mind and Matter is carried on. What did Bacon mean by the "Doctrina de foedere?"

4. The merit of originating psychological analysis is disputed between four philosophers of the seventeenth century: name them, and their principal works; and estimate their respective claims. On what specific ground does Stewart assert for Descartes the title of "Father of the Experimental Philosophy of the Human Mind?" How do you understand the word *experimental* in this passage?

5. In what principle of Descartes' Philosophy do we find the germ of the theories of "Occasional Causes," "Pre-established Harmony," and "Vision in God?" Name the authors of these several theories. What difficulties were they supposed to obviate? What is their common imperfection?

6. What axiom, according to Descartes, is "the foundation of all science; the rule and measure of all truth?" Examine it critically. State and criticise the process by which Descartes establishes the existence of the External World. In what sense did Descartes maintain, and in what sense did Locke impugn, the doctrine of Innate Ideas? What was Locke's primary argument against this doctrine?

7. What was the great problem of Locke's Essay? State in syllogistic form his general argument. State accurately Locke's definitions of the following terms:—Idea, Reflection, Knowledge, Time, Substance. How, according to Locke, do we arrive at the conception of Substance? What consequences was his definition of Knowledge supposed to involve? Is it fairly responsible for these consequences?

8. What is Immaterialism? What was the aim of Berkeley's system? State and criticise some of his leading arguments.

9. Define Power, Cause, and Effect. How is it that the analysis of these notions comes within the limits of Locke's plan? What is the reason that day and night,

notwithstanding their relation of invariable sequence, are never regarded under the aspect of cause and effect? Hume's account of these notions has one premise in common with Locke, and one with Kant. What is his conclusion? What constitutes the importance of Hume's writings in the history of Metaphysics?

10. Trace the historical relation between the system of Hume and that of Kant. Upon the determination of what fundamental question, according to Kant, rests the possibility of a true science of Metaphysics? How does he show that all knowledge is not derived from the experience furnished by the senses? What is the great inconsistency of Kant's system? What great truths did he seek to establish by his Practical Reason? How did Kant's system necessarily lead to scepticism? What seems to be its fundamental fallacy?

11. Is linear distance directly perceived by sight? How have the phenomena of single and double vision been accounted for? How does Locke prove that "Ideas of Sensation are often altered by the Judgment?"

12. State some of the most remarkable classifications that have been proposed of mental phenomena. Mention the classification you adopt, and the grounds of your preference. With what precautions must any classification be adopted?

21*st September*, 1857.—*Morning.*

JURISPRUDENCE.

Examiner, D. Caulfeild Heron, LL.D.

1. Define Jurisprudence.
2. How do you distinguish the laws of which Jurisprudence treats from those investigated by Political Economy?
3. What is meant by *ex post facto* legislation; and on what grounds has the phrase been applied to the unwritten law of England?
4. What is the fundamental distinction between Civil and Criminal Law?
5. What is the supposed advantage of legal fictions, and what is the objection to their use?
6. Define Common Law and Statute Law.
7. What is the technical meaning of Equity in the law of England?
8. What does Blackstone designate by the term, Municipal Law? Is the phrase correct? If not, why not?
9. What is the proper end of punishment?
10. Define International Law.
11. Define Procedure.
12. Define a Contract and a Promise.
13. Define an action at law.
14. Two great schools of Jurisprudence have existed in modern times.
15. Define the term, "*codification.*"
16. Define the term, "*constitution of a state.*"
17. Define the terms, *evidence* and *proof.*
18. What is the use of a register of deeds?
19. On what principle is based the right of paupers to subsistence raised by taxation?
20. Define Copyright.

21*st September*, 1857.—*Morning.*

POLITICAL ECONOMY.

Examiner, D. Caulfeild Heron, LL.D.

1. Define Political Economy.
2. What are the three constituents of wealth?
3. Define the terms, *supply* and *demand.*
4. Mr. Senior states four elementary propositions of the science of Political Economy.
5. What are the chief sources of the influence of limitation of supply upon value?
6. What is the difference between the price of labour and the amount of wages?
7. Explain the phrase, "favourable balances of trade."
8. Money has two functions.
9. What qualities render the precious metals the fittest of all commodities to be used as money?
10. Define Production.
11. Define Capital and Labour.
12. Define Value.
13. Define Rent.
14. What are the Customs and Excise Duties?
15. Define Banking.
16. How is the term, *cost of production*, defined by Mr. Senior?
17. There are four species of monopolies.
18. The terms, high and low wages, have been used in three different senses.
19. Define a joint stock company.
20. How does a joint stock bank differ from a private bank.

18*th September*, 1857.—*Afternoon.*

NATURAL PHILOSOPHY.

Examiner, John Stevelly, LL.D.

1. Give a clear analysis of Duchayla's Proof of the Parallelogram of Forces, without going through the proofs of the several propositions.
2. Four weights are placed on a horizontal lever: one of 14 lbs. at 10 inches from its fulcrum; one of 20 lbs. at 7 inches; one of 11 lbs. at 15 inches; and one of 36 lbs. at 5 inches; and all at the same side. What force, acting at two feet and one inch distance from the fulcrum, would produce equilibrium?
3. On the same supposition as the last, state the two points at which the equilibrating force, if it act up, or down, in a vertical line, must be applied; and give the pressure which the fulcrum sustains in each case.
4. A wheel of 5 feet in diameter is acted on by a force of 20 lbs. at its circumference; what load will this sustain on a compound axle, the diameter of one part of which is 16 inches, and that of the other part, 14 inches?
5. Prove that if a body move from rest under the action of any uniform force, and if it acquire the velocity, v, in the time t; then the space described, $s = \frac{v \times t}{2}$.
6. By the Act of Parliament which determines the Weights and Measures of Great Britain, the length of the pendulum which swings seconds in London is declared to be 39·13929 imperial standard inches. Explain fully, how, from that fact, we obtain the measure of the dynamic force of gravity at London, in feet per second; but do not go through the arithmetic operations.
7. What height would a musket bullet rise to from the earth which was shot upwards vertically, with a velocity of 1,640 feet per second, supposing it not to be resisted by the air?
8. The specific gravity of wrought iron is 7·78. A ploughshare let gently into a vessel of water, carefully filled up to an overflow pipe, is found to displace 114·5 cubic inches of the water; what is the weight of the ploughshare?
9. Explain the total reflexion of light which takes place at the boundary between a denser and a more rare optical medium; and give the relation between the limiting angle at which it takes place, and the indexes of refraction.
10. Explain how the distance of a heavenly body, from the centre of the earth, and its parallax, are related; and explain by what observations the distance of the same body can be determined at successive times.
11. In a certain hygrometric state of the air, 100 cubic inches are found to weigh 30·5 grains. Show how the number expressing the specific gravity of air in that state is obtained, distilled water at 60°, and standard pressure being the unit.
12. Explain how the height of a homogeneous atmosphere of the same constitution as in the preceding question may be calculated, the height of the barometer being supposed 30 inches, and the density of mercury 13·6 to distilled water, 1.
13. Explain the great accumulation of electricity obtained by charging a Leyden jar.
14. State, clearly, the difference of action of one permanent magnet when brought in the neighbourhood of

Appendix II.

Examination for the Degree of A.B.

Group C. and Group D.

another; and of the same magnet when brought near a bar of soft iron; and explain the difference.

15. A flask of water, when boiling freely, is corked up, and all ebullition immediately ceases. It is then plunged into cold water, when violent ebullition again commences. Explain these facts.

18th September, 1857.—*Morning.*

CHEMISTRY.

Examiner, Thos. H. Rowney, PH.D.

1. What general law has been observed with reference to the boiling points of homologous series?

2. Give the laws of combining proportions.

3. Describe the method of taking the specific gravity of a body heavier than water, and the precautions to be observed.

4. What is meant by a compound radical? Give some examples.

5. How is the atomic weight of an organic acid ascertained?

6. Give a description of water; its composition, properties, and the forms in which it exists.

7. Explain, in symbols, the reaction that takes place when hydrosulphuric acid is passed into a solution of chromic acid.

8. What is the action of light upon moist chloride of silver?

9. Give the formulæ, with water of crystallization, of the following sulphates:—Alum, sulphates of baryta, lime, zinc, copper, manganese, and nickel.

10. Give the different views of the constitution of alcohol.

11. Mention the specific tests for the following metals:—Potash, soda, lime, alumina, iron, cadmium, and silver.

12. Describe, shortly, the manufacture, composition, and properties of carbonate of lead.

13. Describe the preparation and properties of sulphuric acid. Mention, also, the impurities that may exist in it.

14. Give Liebig's and Gerhardt's views of the constitution of acetic acid.

15. By what method may anhydrous acetic acid be obtained, and what is its constitution?

16. What compound is obtained by the action of heat on a mixture of benzoic acid and lime? Describe the reaction in symbols.

17. Give the properties, and some of the principal sources, of carbonic acid.

18. What is the constitution of the salts called alums?

19th September, 1857.—*Morning.*

ZOOLOGY.—*Examiner, Professor W. Smith*, F.L.S.

1. Distinguish between systemic and pulmonic circulation; mention the organs concerned in each, and give examples of animals in which only one or both occur.

2. What are the typical modifications of the nervous system throughout the animal series, and in what classes do they occur?

3. Give the homologies in the mammalian skeleton of the carapace and plastron of the tortoise.

4. Refer the following genera of animals to their respective classes, orders, and families, viz.:—Balæna, Macropus, Cyprinus, Vespertilio, Vulpes, Teredo, Limax, Culex, and Beröe.

5. Define the geographical limits of the larger Pachydermata in their wild state.

BOTANY.

1. How does the structure of the leaf guide to the structure of the stem? In what sub-class do we find such indications fail?

2. Give the homologies of the filament, anther, and pollen.

3. Define the terms arillus and arillode, and give illustrative examples.

4. In what order of plants have the terms Melanospermeæ, Rhodospermeæ, and Chlorospermeæ, been introduced? Explain these terms, and give illustrative examples.

5. What natural order has the following characters, viz.:—Herbaceous plants, with alternate ex-stipulate leaves, and a racemose, or corymbose inflorescence: sepals and petals four, regular; stamens six: fruit bicarpellary, seed exalbuminous; embryo folded?

19th September, 1857.—*Afternoon.*

PHYSICAL GEOGRAPHY.

Examiner, Professor William King.

1. What are isothermal lines?

2. Name the principal active volcanoes.

3. Describe an Alpine glacier and moraine.

4. Name the principal deltas of the globe; and explain the formation of any particular one.

5. Explain the origin of the great alluvial plain of Bengal.

6. Describe the principal oceanic currents.

7. Give the direction of the principal mountain ranges, and the altitude of some of the highest peaks.

8. Considering the height of the highest mountain, and the depth of the deepest part of the ocean—what is the greatest amount of inequality on the earth's surface?

9. Give Darwin's classification of recent coral formations.

10. Adduce evidence to show that some coral formations are gradually rising, while others are subsiding.

11. Explain the absence of a true delta in some large rivers, especially the Amazon.

EXAMINATION FOR HONORS—A.B.

Examination for Honors A.B.

24th September, 1857.—*Morning.*

LATIN.—*Examiner, Bunnell Lewis*, M.A.

Translate:—

(A.)—HORACE—SATIRES.

Nec sibi coenarum quivis temere arroget artem
Non prius exacta tenui ratione saporum.
Nec satis est, cara pisces averrere mensa
Ignarum, quibus est ius aptius et quibus assis
Languidus in cubitum iam se conviva reponet.
Umber et iligna nutritus glande rotundas
Curvat aper lances carnem vitantis inertem:
Nam Laurens malus est, ulvis et arundine pinguis.
Vinea submittit capreas non semper edules.
Fecundae leporis sapiens sectabitur armos.
Piscibus atque avibus quae natura et foret aetas,
Ante meum nulli patuit quaesita palatum.
Sunt quorum ingenium nova tantum crustula promit:
Nequaquam satis in re una consumere curam,
Ut si quis solum hoc, mala ne sint vina, laboret,
Quali perfundat pisces securus olivo.
Massica si coelo supponas vina sereno
Nocturna, si quid crassi est, tenuabitur aura,
Et decedet odor nervis inimicus; at illa
Integrum perdunt lino vitiata saporem.
Surrentina vafer qui miscet faece Falerna
Vina, columbino limum bene colligit ovo,
Quatenus ima petit volvens aliena vitellus.
Tostis marcentem squillis recreabis et Afra
Potorem cochlea: nam lactuca innatat acri
Post vinum stomacho; perna magis ac magis hillis
Flagitat in morsus refici, quin omnia malit,
Quaecunque immundis fervent allata popinis.

Est operae pretium duplicis pernoscere iuris
Naturam. Simplex e dulci constat olivo,
Quod pingui miscere mero muriaque decebit
Non alia, quam qua Byzantia putuit orca.
Hoc ubi confusum sectis inferbuit herbis
Corycioque croco sparsum stetit, insuper addes
Pressa Venafranae quod bacca remisit olivae.

(B.)—VIRGIL—ÆNEID.

His ubi nequidquam dictis experta Latinum
Contra stare videt, penitusque in viscera lapsum
Serpentis furiale malum, totamque pererrat;
Tum vero infelix, ingentibus excita monstris,
Immensam sine more furit lymphata per urbem:
Ceu quondam torto volitans sub verbere turbo,
Quem pueri magno in gyro vacua atria circum
Intenti ludo exercent; ille actus habena
Curvatis fertur spatiis; stupet inscia supra
Impubesque manus, mirata volubile buxum;
Dant animos plagae. Non cursu segnior illo
Per medias urbes agitur populosque feroces.
Quin etiam in silvas, simulato numine Bacchi
Maius adorta nefas maioremque orsa furorem,
Evolat, et natam frondosis montibus abdit,
Quo thalamum eripiat Teucris taedasque moretur,
Evoe Bacche, fremens, solum te virgine dignum
Vociferans: etenim molles tibi sumere thyrsos,
Te lustrare choro, sacrum tibi pascere crinem.
Fama volat, furiisque accensas pectore matres
Idem omnes simul ardor agit, nova quaerere tecta.
Deseruere domos, ventis dant colla comasque;
Ast aliae tremulis ululatibus aethera complent,
Pampineasque gerunt incinctae pellibus hastas.
Ipsa inter medias flagrantem fervida pinum
Sustinet, ac natae Turnique canit hymenaeos,
Sanguineam torquens aciem, torvumque repente
Clamat: "Io matres, audite, ubi quaeque, Latinae:
Si qua piis animis manet infelicis Amatae
Gratia, si iuris materni cura remordet,
Solvite crinales vittas, capite orgia mecum."

(C.)—TERENCE—PHORMIO.

A. GETA. G. Hem! A. Quid egisti? G. Emunxi argento senes.
A. Satin' id est? G. Nescio hercle: tantum jussus sum.
A. Eho, verbero, aliud mihi respondes ac rogo?
G. Quid ergo narras? A. Quid ego narrem? opera tua
Ad restim mihi quidem res rediit planissime.
Ut te quidem omnes di, deaeque, superi, inferi,
Malis exemplis perdant! hem! si quid velis,
Huic mandes, quod quidem recte curatum velis,
Quid minus utibile fuit, quam hoc ulcus tangere,
Aut nominare uxorem? injecta est spes patri,
Posse illam extrudi: cedo nunc porro, Phormio
Dotem si accipiet, uxor ducenda est domum:
Quid fiet? G. Non enim ducet. A. Novi: caeterum
Quum argentum repetent, nostra causa scilicet
In nervum potius ibit. G. Nihil est, Antipho,
Quin male narrando possit depravarier.
Tu id quod boni est excerpis: dicis quod mali est.
Audi nunc contra jam: si argentum acceperit,
Ducenda est uxor, ut ais: concedo tibi:
Spatium quidem tandem apparandis nuptiis,
Vocandi, sacrificandi, dabitur paululum:
Interea amici, quod polliciti sunt, dabunt:
Id istis reddet. A. Quamobrem? aut quid dicet? G. Rogas?
Quot res? "Postilla monstra evenerunt mihi:
Introiit in aedes ater alienus canis:
Anguis per impluvium decidit de tegulis:
Gallina cecinit: interdixit hariolus:
Aruspex vetuit ante brumam aliquid novi
Negoti incipere?" quae causa est justissima.
Haec fient. A. Ut modo fiant. G. Fient: me vide.
Pater exit: abi, dic esse argentum Phaedriae.

Translate into Latin verse:—

There is a vale in Ida, lovelier
Than all the valleys of Ionian hills.
The swimming vapour slopes athwart the glen,
Puts forth an arm, and creeps from pine to pine,
And loiters, slowly drawn. On either hand
The lawns and meadow-ledges midway down
Hang rich in flowers, and far below them roars
The long brook falling through the clov'n ravine,
In cataract after cataract to the sea.
Behind the valley topmost Gargarus
Stands up and takes the morning: but in front
The gorges, opening wide apart, reveal
Troas and Ilion's columned citadel,
The crown of Troas.

1. What is known concerning the life of Terence? Point out the chief merits and defects of his plays. In what respects is he superior to Plautus? What is meant by fabula prætextata?

2. Write a short essay on the Roman satirists, and quote some passages from their writings in support of your statements.

3. Distinguish between tessera and talus, clipeus and scutum, semita and via, promitto and polliceor, simulo and dissimulo.

4. Explain, accurately, the meanings of the words, bruma, delubrum, vexillum, nubere, exodium, bustum, improbus, tibicen.

5. What does the abbreviation III. VIR. AAAFF. denote?

24th September, 1857.—*Afternoon.*

LATIN.—*Examiner, Bunnell Lewis*, M.A.

Translate:—

(A.)—TACITUS—HISTORIES.

Galbae corpus, diu neglectum et plurimis ludibriis vexatum, licentia tenebrarum dispensator Argius e prioribus servis humili sepultura in privatis eius hortis contexit. Caput per lixas calonesque suffixum laceratumque, ante Patrobii tumulum (libertus is Neronis punitus a Galba fuerat) postera demum die repertum et cremato iam corpori admixtum est. Hunc exitum habuit Servius Galba, tribus et septuaginta annis quinque principes prospera fortuna emensus, et alieno imperio felicior quam suo. Vetus in familia nobilitas, magnae opes: ipsi medium ingenium, magis extra vitia quam cum virtutibus. Famae nec incuriosus nec venditator. Pecuniae alienae non adpetens, suae parcus, publicae avarus. Amicorum libertorumque, ubi in bonos incidisset, sine reprehensione patiens, si mali forent, usque ad culpam ignarus. Sed claritas natalium et metus temporum obtentui, ut quod segnitia erat, sapientia vocaretur. Dum vigebat aetas, militari laude apud Germanias floruit. Pro consule Africam moderate, iam senior citeriorem Hispaniam pari iustitia continuit, maior privato visus, dum privatus fuit, et omnium consensu capax imperii, nisi imperasset.

(B.)—CICERO—DE ORATORE.

Saepe etiam facete concedas adversario id ipsum, quod tibi ille detrahit: ut C. Laelius, quum ei quidam malo genere natus diceret, indignum esse suis maioribus, At hercule, inquit, tu tuis dignus. Saepe etiam sententiose ridicula dicuntur: ut M. Cincius, quo die legem de donis et muneribus tulit, quum C. Cento prodisset et satis contumeliose: Quid fers, Cinciole? quaesisset: Ut emas, inquit, Cai, si uti velis. Saepe etiam salse, quae fieri non possunt, optantur: ut M. Lepidus, quum, caeteris in campo exercentibus, in herba ipse recubuisset, Vellem hoc esset, inquit, laborare. Salsum est etiam quaerentibus et quasi percontantibus lente respondere quod nolint; ut censor Lepidus, quum M. Antistio Pyrgensi equum ademisset, amicique quum vociferarentur et quaererent, quid ille patri suo responderet, cur ademptum sibi equum diceret, quum optimus colonus, parcissimus, modestissimus, frugalissimus esset: Me istorum, inquit, nihil credere. Colliguntur a Graecis alia nonnulla, exsecrationes, admirationes, minationes. Sed haec ipsa nimis mihi videor in multa genera descripsisse. Nam illa, quae verbi ratione et vi continentur, certa fere ac definita sunt; quae plerumque, ut ante dixi,

laudari magis quam rideri solent. Haec autem, quae sunt in re et ipsa sententia, partibus sunt innumerabilia, generibus pauca. Exspectationibus enim decipiendis et naturis aliorum irridendis, ipsorum ridicule indicandis et similitudine turpioris et dissimulatione et subabsurda dicendo et stulta reprehendendo risus moventur. Itaque imbuendus est is, qui iocose volet dicere, quasi natura quadam apta ad haec genera et moribus, ut ad cuiusque modi genus ridiculi vultus etiam accommodetur; qui quidem quo severior est et tristior, ut in te, Crasse, hoc illa, quae dicuntur, salsiora videri solent.

(C.)—Livy.

Ea res aliquanto exspectatione omnium tranquillior fuit. Itaque cum renuntiatum a mercatoribus esset negata Veientibus auxilia, iussosque suo consilio bellum initum suis viribus exsequi, nec adversarum rerum quaerere socios, cum quibus spem integram communicati non sint, tum dictator, ne nequiquam creatus esset, materia quaerendae bello gloriae adempta in pace aliquid operis edere, quod monumentum esset dictaturae, cupiens, censuram minuere parat, seu nimiam potestatem ratus, seu non tam magnitudine honoris quam diuturnitate offensus. Contione itaque advocata rem publicam foris gerendam ait tutaque omnia praestanda deos immortales suscepisse; se, quod intra muros agendum esset, libertati populi Romani consulturum. Maximam autem eius custodiam esse, si magna imperia diuturna non essent, et temporis modus imponeretur, quibus iuris imponi non posset. Alios magistratus annuos esse, quinquennalem censuram. Grave esse isdem per tot annos magna parte vitae obnoxios vivere. Se legem laturum, ne plus quam annua ac semestris censura esset. Consensu ingenti populi legem postero die pertulit, "et ut re ipsa" inquit "sciatis, Quirites, quam mihi diuturna non placeant imperia, dictatura me abdico." Deposito suo magistratu, modo aliorum magistratuum imposito, fine alteri, cum gratulatione ac favore ingenti populi domum est reductus. Censores aegre passi Mamercum, quod magistratum populi Romani minuisset, tribu moverunt octiplicatoque censu aerarium fecerunt. Quam rem ipsum ingenti animo tulisse ferunt, causam potius ignominiae intuentem quam ignominiam; primores patrum, quamquam deminutum censurae ius noluissent, exemplo acerbitatis censoriae offensos, quippe cum se quisque diutius ac saepius subiectum censoribus fore cerneret quam censuram gesturum. Populi certe tanta indignatio coorta dicitur, ut vis a censoribus nullius auctoritate praeter quam ipsius Mamerci deterreri quiverit.

Translate into Latin prose:—

Two great revolutions have happened in the political state and in the manners of the European nations. The first was occasioned by the progress of the Roman power; the second, by the subversion of it. When the spirit of conquest led the armies of Rome beyond the Alps, they found all the countries which they invaded inhabited by people whom they denominated barbarians, but who were, nevertheless, brave and independent. These defended their ancient possessions with obstinate valour. It was by the superiority of their discipline, rather than of their courage, that the Romans gained any advantage over them. A single battle did not, as among the effeminate inhabitants of Asia, decide the fate of a state. The vanquished people resumed their arms with fresh spirit, and their undisciplined valour, animated by a love of liberty, supplied the want of conduct as well as of union.

1. Write down the Latin distributives and numeral adverbs from 1 to 20. What is the symbol for 5,000?

2. Give the meanings of rogo, irrogo, subrogo, and erogo.

3. Give an account of the maladministration of Verres in Sicily; and show, by examples, that the Roman provincial governors were frequently guilty of similar crimes. Quote Juvenal's lines on this subject.

4. Explain the following terms: quæstio perpetua, album judicum, centum viri, perduellio, provocatio, ampliatio.

5. In what year were the Tusculan Disputations written? Indicate the sources from which Cicero derived his arguments for the immortality of the soul.

6. Compare Tacitus with Sallust, considering them as historians.

7. Describe the situation of Venusia, Gyarus, Baiæ, Aquinum, and Cirrha. Mention instances in which the name of a French town has been formed by contraction from that of a Gallic people.

23rd September, 1857.—*Morning.*

Greek.—*Examiner, Charles MacDouall*, A.M.

I.—Translate the following passage into Attic prose, and carefully accentuate your version throughout—

Ubi eo ventum est, Caesar initio orationis sua senatusque in eum beneficia commemoravit, quod *rex* appellatus esset a senatu, quod *amicus*, quod munera amplissime missa; quam rem et paucis contigisse et pro magnis hominum officiis consuesse tribui docebat; illum, cum neque aditum neque causam postulandi iustam haberet, beneficio ac liberalitate sua ac senatus ea praemia consecutum. Docebat etiam, quam veteres quamque iustae causae necessitudinis ipsis cum Haeduis intercederent; quae senatusconsulta quotiens quamque honorifica in eos facta essent; ut omni tempore totius Galliae principatum Haedui tenuissent, prius etiam quam nostram amicitiam appetissent. Populi Romani hanc esse consuetudinem, ut socios atque amicos non modo sui nihil deperdere, sed gratia, dignitate, honore auctiores velit esse: quod vero ad amicitiam populi Romani adtulissent, id iis eripi quis pati posset? Postulavit deinde eadem, quae legatis in mandatis dederat: ne aut Haeduis aut eorum sociis bellum inferret; obsides redderet; si nullam partem Germanorum domum remittere posset, at ne quos amplius Rhenum transire pateretur.

II.—1. Translate, accurately, but in idiomatic English, the annexed extract from Herodotus, I, 88:

Ὁ μὲν [Κροῖσος] ταῦτα ἔλεγε· Κῦρος δὲ αὐτὸν λύσας κάτισέ τε ἐγγὺς ἑωυτοῦ καὶ κάρτα ἐν πολλῇ προμηθείῃ εἶχε, ἀπεθώυμαζέ τε ὁρέων καὶ αὐτὸς καὶ οἱ περὶ ἐκεῖνον ἐόντες πάντες. ὁ δέ, συννοίῃ ἐχόμενος, ἡσυχος ἦν· μετὰ δέ, ἐπιστραφείς τε καὶ ἰδόμενος τοὺς Πέρσας τὸ τῶν Λυδῶν ἄστυ κεραΐζοντας, εἶπε· "ὦ βασιλεῦ! κότερον λέγειν πρὸς σὲ τὰ νοέων τυγχάνω ἢ σιγᾶν ἐν τῷ παρεόντι χρή;" Κῦρος δέ μιν θαρσέοντα ἐκέλευε λέγειν ὅ τι βούλοιτο." ὁ δὲ αὐτὸν εἰρώτα, λέγων· "οὗτος ὁ πολλὸς ὅμιλος τί ταῦτα σπουδῇ πολλῇ ἐργάζεται;" ὁ δὲ εἶπε· "πόλιν τε τὴν σὴν διαρπάζει καὶ χρήματα τὰ σὰ διαφορέει." Κροῖσος δὲ ἀμείβετο· "οὔτε πόλιν τὴν ἐμὴν οὔτε χρήματα τὰ ἐμὰ διαρπάζει· οὐδὲν γὰρ ἐμοὶ ἔτι τούτων μέτα· ἀλλὰ φέρουσί τε καὶ ἄγουσι τὰ σά." Κύρῳ δὲ ἐπιμελὲς ἐγένετο τὰ Κροῖσος εἶπε· μεταστησάμενος δὲ τοὺς ἄλλους εἴρετο Κροῖσον, ὅ τι οἱ ἐνορῴη ἐν τοῖσι ποιευμένοισι. ὁ δὲ εἶπε· "ἐπεί τέ με θεοὶ ἔδωκαν δοῦλόν σοι, δικαιῶ, εἴ τι ἐνορέω πλέον, σημαίνειν σοι. Πέρσαι, φύσιν ἐόντες ὑβρισταί, εἰσὶ ἀχρήματοι. ἢν ὦν σὺ τούτους περιίδῃς διαρπάσαντας καὶ κατασχόντας χρήματα μεγάλα, τάδε τοι ἐξ αὐτῶν ἐπίδοξα γενέσθαι· ὃς ἂν αὐτῶν πλεῖστα κατάσχῃ, τοῦτον προςδέκεσθαί τοι ἐπαναστησόμενον. νῦν ὦν ποίησον ὧδε, εἴ τοι ἀρέσκει τὰ ἐγὼ λέγω. κάτισον τῶν δορυφόρων ἐπὶ πάσῃσι τῇσι πύλῃσι φυλάκους, οἳ λεγόντων πρὸς τοὺς ἐκφέροντας τὰ χρήματα ἀπαιρεόμενοι, ὡς σφεα ἀναγκαίως ἔχει δεκατευθῆναι τῷ Διί. καὶ σύ τέ σφι οὐκ ἀπεχθήσεαι βίῃ ἀπαιρεόμενος τὰ χρήματα, καὶ ἐκεῖνοι συγγνόντες ποιέειν σε δίκαια ἑκόντες προήσουσι." ταῦτα ἀκούων ὁ Κῦρος ὑπερήδετο, ὡς οἱ ἐδόκεε εὖ ὑποτίθεσθαι· αἰνέσας δὲ πολλά, καὶ ἐντειλάμενος τοῖσι δορυφόροισι τὰ Κροῖσος ὑπεθήκατο ἐπιτελέειν, εἶπε πρὸς Κροῖσον τάδε· "Κροῖσε! ἀναρτημένου σεῦ ἀνδρὸς βασιλέος χρηστὰ ἔργα καὶ ἔπεα ποιέειν, αἰτέο δόσιν, ἥντινα βούλεαί τοι γενέσθαι παραυτίκα." ὁ δὲ εἶπε· "ὦ δέσποτα,

ἐάσας με χαριεῖ μάλιστα τὸν θεὸν τῶν Ἑλλήνων, τὸν ἐγὼ ἐτίμησα θεῶν μάλιστα, ἐπείρεσθαι, πέμψαντα τάςδε τὰς πέδας, εἰ ἐξαπατᾶν τοὺς εὖ ποιεῦντας νόμος ἐστί οἱ." Κῦρος δὲ εἴρετο, ὅ τι οἱ τοῦτο ἐπηγορέων παραιτέοιτο. Κροῖσος δέ οἱ ἐπαλιλλόγησε πᾶσαν τὴν ἑωυτοῦ διάνοιαν, καὶ τῶν χρηστηρίων τὰς ὑποκρίσιας, καὶ μάλιστα τὰ ἀναθήματα, καὶ ὡς ἐπαερθεὶς τῷ μαντηΐῳ ἐστρατεύσατο ἐπὶ Πέρσας. λέγων δὲ ταῦτα κατέβαινε αὖτις παραιτεόμενος ἐπεῖναί οἱ τῷ θεῷ τούτων ὀνειδίσαι.

2. Write out the whole passage in the Attic dialect and the style of Xenophon; altering not only every Ionic word and form, but cases of nouns and tenses and modes of verbs, and even the structure of entire clauses, wherever such treatment of the text may seem to be required by Attic idiom.

III.—Translate, likewise, either (if not both) of the following passages :—

1. From THUCYDIDES, I. cc. 18, 19 :

Ἐπειδὴ δὲ οἵ τε Ἀθηναίων τύραννοι καὶ οἱ ἐκ τῆς ἄλλης Ἑλλάδος ἐπὶ πολὺ καὶ πρὶν τυραννευθείσης οἱ πλεῖστοι καὶ τελευταῖοι, πλὴν τῶν ἐν Σικελίᾳ, ὑπὸ Λακεδαιμονίων κατελύθησαν, (ἡ γὰρ Λακεδαίμων μετὰ τὴν κτίσιν τῶν νῦν ἐνοικούντων αὐτὴν Δωριέων ἐπὶ πλεῖστον ὧν ἴσμεν χρόνον στασιάσασα ὅμως ἐκ παλαιοτάτου καὶ εὐνομήθη καὶ ἀεὶ ἀτυράννευτος ἦν· ἔτη γάρ ἐστι μάλιστα τετρακόσια καὶ ὀλίγῳ πλείω ἐς τὴν τελευτὴν τοῦδε τοῦ πολέμου, ἀφ' οὗ Λακεδαιμόνιοι τῇ αὐτῇ πολιτείᾳ χρῶνται, καὶ δι' αὐτὸ δυνάμενοι καὶ τὰ ἐν ταῖς ἄλλαις πόλεσι καθίστασαν·) μετὰ δὲ τὴν τῶν τυράννων κατάλυσιν ἐκ τῆς Ἑλλάδος οὐ πολλοῖς ἔτεσιν ὕστερον καὶ ἡ ἐν Μαραθῶνι μάχη Μήδων πρὸς Ἀθηναίους ἐγένετο. δεκάτῳ δὲ ἔτει μετ' αὐτὴν αὖθις ὁ Βάρβαρος τῷ μεγάλῳ στόλῳ ἐπὶ τὴν Ἑλλάδα δουλωσόμενος ἦλθε. καὶ μεγάλου κινδύνου ἐπικρεμασθέντος οἵ τε Λακεδαιμόνιοι τῶν ξυμπολεμησάντων Ἑλλήνων ἡγήσαντο δυνάμει προὔχοντες, καὶ οἱ Ἀθηναῖοι ἐπιόντων τῶν Μήδων διανοηθέντες ἐκλιπεῖν τὴν πόλιν καὶ ἀνασκευασάμενοι ἐς τὰς ναῦς ἐσβάντες ναυτικοὶ ἐγένοντο. κοινῇ τε ἀπωσάμενοι τὸν Βάρβαρον ὕστερον οὐ πολλῷ διεκρίθησαν πρός τε Ἀθηναίους καὶ Λακεδαιμονίους οἵ τε ἀποστάντες βασιλέως Ἕλληνες καὶ οἱ ξυμπολεμήσαντες. δυνάμει γὰρ ταῦτα μέγιστα διεφάνη· ἴσχυον γὰρ οἱ μὲν κατὰ γῆν, οἱ δὲ ναυσί. καὶ ὀλίγον μὲν χρόνον ξυνέμεινεν ἡ ὁμαιχμία, ἔπειτα δὲ διενεχθέντες οἱ Λακεδαιμόνιοι καὶ Ἀθηναῖοι ἐπολέμησαν μετὰ τῶν ξυμμάχων πρὸς ἀλλήλους· καὶ τῶν ἄλλων Ἑλλήνων εἴ τινές που διασταῖεν, πρὸς τούτους ἤδη ἐχώρουν. ὥστε ἀπὸ τῶν Μηδικῶν ἐς τόνδε ἀεὶ τὸν πόλεμον, τὰ μὲν σπενδόμενοι, τὰ δὲ πολεμοῦντες ἢ ἀλλήλοις ἢ τοῖς ἑαυτῶν ξυμμάχοις ἀφισταμένοις, εὖ παρεσκευάσαντο τὰ πολέμια καὶ ἐμπειρότεροι ἐγένοντο μετὰ κινδύνων τὰς μελέτας ποιούμενοι. καὶ οἱ μὲν Λακεδαιμόνιοι οὐχ ὑποτελεῖς ἔχοντες φόρου τοὺς ξυμμάχους ἡγοῦντο, κατ' ὀλιγαρχίαν δὲ σφίσιν αὐτοῖς μόνον ἐπιτηδείως ὅπως πολιτεύσουσι θεραπεύοντες, Ἀθηναῖοι δὲ ναῦς τε τῶν πόλεων τῷ χρόνῳ παραλαβόντες, πλὴν Χίων καὶ Λεσβίων, καὶ χρήματα τοῖς πᾶσι τάξαντες φέρειν. καὶ ἐγένετο αὐτοῖς ἐς τόνδε τὸν πόλεμον ἡ ἰδία παρασκευὴ μείζων ἢ ὡς τὰ κράτιστά ποτε μετὰ ἀκραιφνοῦς τῆς ξυμμαχίας ἤνθησαν.

2. From PLATON, *Apologia*, c. 20 :

Ἀκούσατε δή μου τὰ ἐμοὶ ξυμβεβηκότα, ἵν' εἰδῆτε, ὅτι οὐδ' ἂν ἑνὶ ὑπεικάθοιμι παρὰ τὸ δίκαιον δείσας θάνατον, μὴ ὑπείκων δὲ ἅμα κἂν ἀπολοίμην. ἐρῶ δὲ ὑμῖν φορτικὰ μὲν καὶ δικανικά, ἀληθῆ δέ. ἐγὼ γάρ, ὦ ἄνδρες Ἀθηναῖοι! ἄλλην μὲν ἀρχὴν οὐδεμίαν πώποτε ἦρξα ἐν τῇ πόλει, ἐβούλευσα δέ· καὶ ἔτυχεν ἡμῶν ἡ φυλὴ Ἀντιοχὶς πρυτανεύουσα, ὅτε ὑμεῖς τοὺς δέκα στρατηγοὺς τοὺς οὐκ ἀνελομένους τοὺς ἐκ τῆς ναυμαχίας ἐβούλεσθε ἀθρόους κρίνειν, παρανόμως, ὡς ἐν τῷ ὑστέρῳ χρόνῳ πᾶσιν ὑμῖν ἔδοξε. τότ' ἐγὼ μόνος τῶν πρυτάνεων ἠναντιώθην ὑμῖν μηδὲν ποιεῖν παρὰ τοὺς νόμους, καὶ ἐναντία ἐψηφισάμην· καί, ἑτοίμων ὄντων ἐνδεικνύναι με καὶ ἀπάγειν τῶν ῥητόρων, καὶ ὑμῶν κελευόντων καὶ βοώντων, μετὰ τοῦ νόμου καὶ τοῦ δικαίου ᾤμην μᾶλλόν με δεῖν διακινδυνεύειν ἢ μεθ' ὑμῶν γενέσθαι μὴ δίκαια βουλευομένων φοβηθέντα δεσμὸν ἢ θάνατον. καὶ ταῦτα μὲν ἦν ἔτι δημοκρατουμένης τῆς πόλεως. ἐπειδὴ δὲ ὀλιγαρχία ἐγένετο, οἱ τριάκοντα αὖ μεταπεμψάμενοί με πέμπτον αὐτὸν εἰς τὴν θόλον προσέταξαν ἀγαγεῖν ἐκ Σαλαμῖνος Λέοντα τὸν Σαλαμίνιον, ἵν' ἀποθάνοι· οἷα δὴ καὶ ἄλλοις ἐκεῖνοι πολλοῖς πολλὰ προσέταττον, βουλόμενοι ὡς πλείστους ἀναπλῆσαι αἰτιῶν. τότε μέντοι ἐγὼ οὐ λόγῳ, ἀλλ' ἔργῳ αὖ ἐνεδειξάμην, ὅτι ἐμοὶ θανάτου μὲν μέλει, εἰ μὴ ἀγροικότερον εἰπεῖν, οὐδ' ὁτιοῦν, τοῦ δὲ μηδὲν ἄδικον μηδ' ἀνόσιον ἐργάζεσθαι, τούτου δὴ τὸ πᾶν μέλει. ἐμὲ γὰρ ἐκείνη ἡ ἀρχὴ οὐκ ἐξέπληξεν, οὕτως ἰσχυρὰ οὖσα ὥστε ἄδικόν τι ἐργάσασθαι· ἀλλ', ἐπειδὴ ἐκ τῆς θόλου ἐξήλθομεν, οἱ μὲν τέτταρες ᾤχοντο εἰς Σαλαμῖνα καὶ ἤγαγον Λέοντα, ἐγὼ δὲ ᾠχόμην ἀπιὼν οἴκαδε. καὶ ἴσως ἄν διὰ ταῦτ' ἀπέθανον, εἰ μὴ ἡ ἀρχὴ διὰ ταχέων κατελύθη. καὶ τούτων ὑμῖν ἔσονται πολλοὶ μάρτυρες.

IV.—1. Give the names, and briefly describe the functions, of the more important magistracies at Athens and at Sparta, distinguishing those held by individuals from those distributed among various persons,—those held for life from such as were temporary,—and any which were hereditary from those conferred by suffrage or by lot.

2. (*a*) Name the three original tribes of Dorians ; and (*b*) the King who substituted five local tribes in Sparta.

3. (*a*) Mention some facts favourable to the traditionary statement, that the Spartan *Basileis* were of Non-Dorian descent ; and (*b*) notice especially the relations which are found to have subsisted between them and the *Ephoroi* of the Dorian noblesse.

4. (*a*) Name the four old Ionian tribes in Athens as recognised by Solon, and state how many local tribes were substituted by Cleisthenes. (*b*) Sketch the mode by which Solon erected a timocracy in place of an oligarchy, and also that by which Cleisthenes rendered the government democratic.

5. Explain and distinguish these political terms :—πλῆθος, δῆμος (also δημότης), φυλὴ (and φυλέτης), φράτρα, βουλή, γερουσία, πρύτανις, προστάτης, μέτοικος, σύνοικος, περίοικος, προξενία, ἰσοτέλεια, ἀτέλεια, ἐπιγαμία, ἔγκτησις, προεδρία.

6. Give the equivalents employed by Greek writers for these Latin designations :—*plebes, populus, patronus, cliens, senator, eques, consul, proconsul, censor, aedilis, tribunus plebis, tribunus militaris, centurio, decurio.*

23rd September, 1857.—Afternoon.

GREEK.—*Examiner, Charles MacDouall,* A.M.

I.—Translate the following Sounet either in Homeric Hexameters or in Trimeter Iambics :—

The Danish Conqueror, on his royal chair,—
Mustering a face of haughty sovranty
To aid a covert purpose,—cried :—"O ye
Approaching Waters of the Deep, that share
With this green Isle my fortunes, come not where
Your Master's throne is set !" Deaf was the Sea :
Her waves rolled on, respecting his decree
Less than they heed a breath of wanton air.
Then Canute, rising from the invaded throne,
Said to his servile Courtiers :—"Poor the reach,—
The undisguised extent,—of mortal sway.
He only is a King, and He alone
Deserves the name,—this truth the billows preach,—
Whose everlasting laws sea, earth, and heaven obey."

APPENDIX II.

Examination for Honors—A.B.

II.—Translate *one* Homeric passage, and *two* Tragic, out of those which follow :—

1. *Ilias*, XX., 200–205, 242–258 :

Πηλείδη ! μὴ δή μ' ἐπέεσσί γε νηπύτιον ὣς
ἔλπεο δειδίξεσθαι, ἐπεὶ σάφα οἶδα καὶ αὐτὸς
ἠμὲν κερτομίας ἠδ' αἴσυλα μυθήσασθαι.
ἴδμεν δ' ἀλλήλων γενεήν, ἴδμεν δὲ τοκῆας,
πρόκλυτ' ἀκούοντες ἔπεα θνητῶν ἀνθρώπων·
ὄψει δ' οὔτ' ἄρ πω σὺ ἐμοὺς ἴδες οὔτ' ἄρ' ἐγὼ σούς.
* * * * * * *
Ζεὺς δ' ἀρετὴν ἄνδρεσσιν ὀφέλλει τε μινύθει τε,
ὅππως κεν ἐθέλῃσιν· ὁ γὰρ κάρτιστος ἁπάντων.
ἀλλ' ἄγε μηκέτι ταῦτα λεγώμεθα, νηπύτιοι ὥς,
ἑσταότ' ἐν μέσσῳ ὑσμίνῃ δῃϊοτῆτος.
ἔστι γὰρ ἀμφοτέροισιν ὀνείδεα μυθήσασθαι
πολλὰ μάλ'· οὐδ' ἂν νηῦς ἑκατόζυγος ἄχθος ἄροιτο.
στρεπτὴ δὲ γλῶσσ' ἐστὶ βροτῶν, πολέες δ' ἔνι μῦθοι
παντοῖοι, ἐπέων δὲ πολὺς νομὸς ἔνθα καὶ ἔνθα.
ὁπποῖόν κ' εἴπῃσθα ἔπος, τοῖόν κ' ἐπακούσαις.
ἀλλὰ τίη ἔριδας καὶ νείκεα νῶιν ἀνάγκη
νεικεῖν ἀλλήλοισιν ἐναντίον, ὥρτε γυναῖκας ;
αἵτε χολωσάμεναι ἔριδος πέρι θυμοβόροιο
νεικεῦσ' ἀλλήλῃσι μέσην ἐς ἄγυιαν ἰοῦσαι
[πόλλ' ἐτεά τε καὶ οὐκί· χόλος δέ τε καὶ τὰ κελεύει].
ἀλκῆς δ' οὔ μ' ἐπέεσσιν ἀποτρέψεις μεμαῶτα
πρὶν χαλκῷ μαχέσασθαι ἐναντίον· ἀλλ' ἄγε, θᾶσσον
γευσόμεθ' ἀλλήλων χαλκήρεσιν ἐγχείῃσιν.

2. *Odysseia*, XIV., 412–436 :

ἀγχίμολον δὲ σύες τε καὶ ἀνέρες ἦλθον ὑφορβοί.
τὰς μὲν ἄρα ἔρξαν κατὰ ἤθεα κοιμηθῆναι·
κλαγγὴ δ' ἄσπετος ὦρτο συῶν αὐλιζομενάων.
αὐτὰρ ὁ οἷς ἑτάροισιν ἐκέκλετο δῖος ὑφορβός·
"ἄξεθ' ὑῶν τὸν ἄριστον, ἵνα ξείνῳ ἱερεύσω
τηλεδαπῷ· πρὸς δ' αὐτοὶ ὀνησόμεθ', οἵπερ ὀΐζὺν
δὴν ἔχομεν πάσχοντες ὑῶν ἕνεκ' ἀργιοδόντων·
ἄλλοι δ' ἡμέτερον κάματον νήποινον ἔδουσιν."
ὣς ἄρα φωνήσας κέασε ξύλα νηλέϊ χαλκῷ·
οἱ δ' ὗν εἰσῆγον μάλα πίονα πενταέτηρον·
τὸν μὲν ἔπειτ' ἔστησαν ἐπ' ἐσχάρῃ· οὐδὲ συβώτης
λήθετ' ἄρ' ἀθανάτων· φρεσὶ γὰρ κέχρητ' ἀγαθῇσιν·
ἀλλ' ὅγ' ἀπαρχόμενος κεφαλῆς τρίχας ἐν πυρὶ βάλλεν
ἀργιόδοντος ὑός, καὶ ἐπεύχετο πᾶσι θεοῖσιν
νοστῆσαι Ὀδυσῆα πολύφρονα ὅνδε δόμονδε.
κόψε δ' ἀνασχόμενος σχίζῃ δρυός, ἣν λίπε κείων·
τὸν δ' ἔλιπε ψυχή. τοὶ δ' ἔσφαξάν τε καὶ εὗσαν·
αἶψα δέ μιν διέχευαν. ὁ δ' ὠμοθετεῖτο συβώτης,
πάντοθεν ἀρχόμενος μελέων, ἐς πίονα δημόν.
καὶ τὰ μὲν ἐν πυρὶ βάλλε, παλύνας ἀλφίτου ἀκτῇ·
μίστυλλόν τ' ἄρα τἄλλα καὶ ἀμφ' ὀβελοῖσιν ἔπειραν,
ὤπτησάν τε περιφραδέως ἐρύσαντό τε πάντα·
βάλλον δ' εἰν ἐλεοῖσιν ἀολλέα· ἂν δὲ συβώτης
ἵστατο δαιτρεύσων· περὶ γὰρ φρεσὶν αἴσιμα ᾔδη.
καὶ τὰ μὲν ἔπταχα πάντα διεμοιρᾶτο δαίζων.

3. Æschylus, *Prometheus Vinctus*, vv. 535–553 :

ΧΟΡΟΣ.

μηδάμ' ὁ πάντα νέμων στρ. α'.
θεῖτ' ἐμᾷ γνώμᾳ κράτος ἀντίπαλον Ζεύς !
μηδ' ἐλινύσαιμι θεοὺς ὁσίαις θοίναις ποτινισσομένα
βουφόνοις παρ' ἄσβεστον πόρον Ὠκεανοῦ,
μηδ' ἀλίτοιμι λόγοις !
ἀλλά μοι τόδ' ἐμμένοι καὶ μήποτ' ἐκτακείη !
ἁδύ τι θαρσαλέαις ἀντ. α'.
τὸν μακρὸν τείνειν βίον ἐλπίσι φαναῖς
θυμὸν ἀλδαίνουσαν ἐν εὐφροσύναις. φρίσσω δέ σε δερκομένα
μυρίοις ἐν μόχθοισιν διακναιόμενον.
Ζῆνα γὰρ οὐ τρομέων
αὐτόνῳ γνώμᾳ σέβει θνατοὺς ἄγαν, Προμηθεῦ !
φέρε, πῶς ἄχαρις χάρις ; ὦ φίλος, εἰπέ ! ποῦ τίς ἀλκά ; στρ. β'.
τίς ἐφαμερίων ἄρηξις ; οὐδ' ἐδέρχθης
ὀλιγοδρανίαν ἄκικυν,
ἀντόνειρον, ᾗ τὸ φωτῶν
ἀλαὸν φέρεται γένος ἐμπεποδισμένον ; οὔπω
τὰν Διὸς ἁρμονίαν βροτῶν παρεξίασι βουλαί.
ἔμαθον τάδε σὰς προςιδοῦσ' ὀλοὰς τύχας, Προμηθεῦ ! ἀντ. β'.
τὸ διαμφίδιον δέ μοι μέλος προξέπτα
τότ' ἐκεῖν', ὁπότ' ἀμφὶ λουτρὰ
καὶ λέχος σὸν ὑμεναίουν
ἰότατι γάμων, ὅτε τὰν ὁμοπάτριον ἔδνοις
ἄγαγες Ἡσιόναν πιθὼν δάμαρτα κοινόλεκτρον.

4. Sophocles, *Oedipus Coloneus*, vv. 429–440, 446–456 :

ΟΙΔ. οὐ δῆτ', ἐπεί τοι τὴν μὲν αὐτίχ' ἡμέραν,
ὁπηνίκ' ἔζει θυμός, ἥδιστον δέ μοι
τὸ κατθανεῖν ἦν καὶ τὸ λευσθῆναι πέτροις,
οὐδεὶς ἔρωτος τοῦδ' ἐφαίνετ' ὠφελῶν·
χρόνῳ δ', ὅτ' ἤδη πᾶς ὁ μόχθος ἦν πέπων,
κἀμάνθανον τὸν θυμὸν ἐκδραμόντα μοι
μείζω κολαστὴν τῶν πρὶν ἡμαρτημένων,
τὸ τηνίκ' ἤδη τοῦτο μὲν πόλις βίᾳ
ἤλαυνέ μ' ἐκ γῆς χρόνιον, οἱ δ' ἐπωφελεῖν,
οἱ τοῦ πατρὸς, τῷ πατρὶ δυνάμενοι, τὸ δρᾶν
οὐκ ἠθέλησαν, ἀλλ' ἔπους σμικροῦ χάριν
φυγάς σφιν ἔξω πτωχὸς ἠλώμην ἐγώ.
* * * * * *
ἀλλ' οὔ τι μὴ λάχωσι τοῦδε συμμάχου,
οὐδέ σφιν ἀρχῆς τῆσδε Καδμείας ποτὲ
ὄνησις ἥξει. τοῦτ' ἐγῷδα τῆσδέ τε
μαντεῖ' ἀκούων συννοῶν τε τἀξ ἐμοῦ
παλαίφαθ' ἁμοὶ Φοῖβος ἤνυσέν ποτε.
πρὸς ταῦτα καὶ Κρέοντα πεμπόντων ἐμοῦ
μαστῆρα, κεἴ τις ἄλλος ἐν πόλει σθένει.
ἐὰν γὰρ ὑμεῖς, ὦ ξένοι ! θέλητ' ὁμοῦ
προστάτισι ταῖς σεμναῖσι δημούχοις θεαῖς
ἀλκὴν ποιεῖσθαι, τῇδε τῇ πόλει μέγαν
σωτῆρ' ἀρεῖσθε, τοῖς δ' ἐμοῖς ἐχθροῖς πόνους.

5. Euripides, *Medea*, vv. 1032–1052, 1059–1064 :

ΜΗΔ. ἦ μήν ποθ' ἡ δύστηνος εἶχον ἐλπίδας
πολλὰς ἐν ὑμῖν, γηροβοσκήσειν τ' ἐμὲ
καὶ κατθανοῦσαν χερσὶν εὖ περιστελεῖν,
ζηλωτὸν ἀνθρώποισι· νῦν δ' ὀλωλε δὴ
γλυκεῖα φροντίς. σφῷν γὰρ ἐστερημένη
λυπρὸν διάξω βίοτον ἀλγεινόν τ' ἐμοί.
ὑμεῖς δὲ μητέρ' οὐκέτ' ὄμμασιν φίλοις
ὄψεσθ', ἐς ἄλλο σχῆμ' ἀποστάντες βίου.
φεῦ φεῦ ! τί προσδέρκεσθέ μ' ὄμμασιν, τέκνα ;
τί προσγελᾶτε τὸν πανύστατον γέλων ;
αἰαῖ ! τί δράσω ; καρδία γὰρ οἴχεται,
γυναῖκες ! ὄμμα φαιδρὸν ὡς εἶδον τέκνων.
οὐκ ἂν δυναίμην· χαιρέτω βουλεύματα
τὰ πρόσθεν ! ἄξω παῖδας ἐκ γαίας ἐμούς.
τί δεῖ με πατέρα τῶνδε τοῖς τούτων κακοῖς
λυποῦσαν αὐτὴν δὶς τόσα κτᾶσθαι κακά ;
[οὐ δῆτ' ἔγωγε. χαιρέτω βουλεύματα !]
καίτοι τί πάσχω ; βούλομαι γέλωτ' ὀφλεῖν
ἐχθροὺς μεθεῖσα τοὺς ἐμοὺς ἀζημίους ;
τολμητέον τάδ'. ἀλλὰ τῆς ἐμῆς κάκης
τὸ καὶ προθέσθαι μαλθακοὺς λόγους φρενί.
* * * * * * *
μὰ τοὺς παρ' Ἅιδην νερτέρους ἀλάστορας,
οὔτοι πότ' ἔσται τοῦθ' ὅπως ἐχθροῖς ἐγὼ
παῖδας παρήσω τοὺς ἐμοὺς καθυβρίσαι.
[πάντως σφ' ἀνάγκη κατθανεῖν· ἐπεὶ δὲ χρή,
ἡμεῖς κτενοῦμεν οἵπερ ἐξεφύσαμεν.]
πάντως πέπρωται ταῦτα κοὐκ ἐκφεύξεται.

III.—1. To the passages translated may be subjoined very concise notes, upon phrases, the scope of which is not obvious,—upon mythical, historical, or archæological allusions,—upon peculiarities of syntax or metre,—upon the derivation analogy of difficult words. —In all Homeric words, where a consonant (such as *F*) has fallen off, let it be restored in agreement with analogy, tradition, and metre.

2. In regard to the first extract, notice some cavils against vv. 251–255, suggested by Alexandrian critics, or even against vv. 246–255, as treated by some recent editors.

3. (*a*) What expressions in the first extract have been noticed in connexion with the question as to the use of writing in the Homeric age ? (*b*) What old interpretation of the phrase, *θεῶν ἐν γούνασι κεῖται*, has

been employed by Col. Mure on the affirmative side of that controversy?

4. Indicate some expressions used by Latin poets while describing Greek rites, which correspond to various phrases in the second extract.

5. Discuss such important various lections in the third extract as you may remember, and the relation of each to its context.

6. (*a*) Approximate the dates—both by the Olympic reckoning and by the years B.C.—when the Tragedies which have furnished the extracts were first represented. (*b*) Date both the birth and the death of their respective Authors. (*c*) Mention the innovations introduced by each Tragedian into the structure of the Drama.

25th September, 1857.—*Morning.*

ENGLISH LANGUAGE AND LITERATURE.

Examiner, George L. Craik, A.M.

1. What is meant by the Mœso-Gothic language, and what remains have we of it?

2. State the most important respects in which the English of Chaucer differs from that now in use.

3. Give an account of Chaucer's principal works.

4. State the various theories that have been put forward to account for the now silent *e* final in English words, and the views that have been taken of its prosodical and grammatical value in Chaucer.

5. Give a short account of the *Visions of Piers Ploughman*, embracing the date, the title, the authorship, the verse, and the language, as well as the subject, the spirit, and the style of execution.

6. Enumerate the principal Scottish Poets, from the fourteenth to the sixteenth century, inclusive, arranging them in the order of time, noticing their most famous works, and characterizing the poetic genius of each.

7. Characterize the poetry and poetical genius of Spenser, and give an account of his principal works.

25th September, 1857.—*Afternoon.*

ENGLISH LANGUAGE AND LITERATURE.

Examiner, George L. Craik, A.M.

1. Give an account of the course of the action in Milton's *Paradise Lost*.

2. Give an account of Bacon's principal English works, noticing, among other particulars, such Latin translations as were executed by himself or under his own inspection.

3. Give an account of the principal editions of Shakespeare's collected works or plays.

4. Give an account of the principal writings of Burke.

5. Give an account of Dr. Johnson's principal writings.

6. Give the etymology of the following words:—*Appertain, Head, Heaven, Bridegroom, Amiable, Causeway, Island, College, Matriculation, Shamefaced, Livelihood, Posthumous, Miniature, Defile* (substantive), *Exile, Rampant.*

7. State what appears to be the true account of the origin and nature of our English verbal substantives in *ing*.

8. Compare, in respect of the versification, the poetry of Shakespeare, of Milton, of Dryden, and of Pope.

9. Compare, in respect of style, the prose of Addison, of Johnson, of Gibbon, and of Burke.

26th September, 1857.—*Morning.*

MODERN LANGUAGES.

Examiner, Professor De Vericour.

FRENCH.

Translate into English:—

I.

"L'esclavage déshonore le travail; il introduit l'oisiveté dans la société, et avec elle l'ignorance et l'orgueil, la pauvreté et le luxe. Il énerve les forces de l'intelligence et endort l'activité humaine."—*De Tocqueville.*

II.

Dieu du jour! Dieu des nuits! Dieu de toutes les heures!
Laisse-moi m'envoler sur les feux du soleil!
Où va vers l'Océan ce nuage vermeil?
Il va voiler le seuil de tes saintes demeures
Où l'œil ne connaît plus la nuit ni le sommeil!
Cependant ils sont beaux à l'œil de l'espérance
Ces champs du firmament ombragés par la nuit;
Mon Dieu, dans ces déserts mon œil retrouve et suit
Les miracles de ta présence!

Les chœurs étincelants que ton doigt seul conduit,
Ces océans d'azur où leur foule s'élance,
Ces fanaux allumés de distance en distance,
Cet astre qui paraît, cet astre qui s'enfuit,
Je les comprends, Seigneur! tout chante, tout m'instruit
Que l'abîme est comblé par ta magnificence,
Que les cieux sont vivants, et que ta providence
Remplit de sa vertu tout ce qu'elle a produit.
Ces flots d'or, d'azur, de lumière,
Ces mondes nébuleux, que l'œil ne compte pas,
O mon Dieu, c'est la poussière
Qui s'élève sous tes pas!

De Lamartine.

III.

1. When is a noun preceded by the definite article in French, while it is not in English?

2. Name the conjunctions and the verbs which govern the subjunctive mood in French.

3. Explain the difference of signification between the words *rose* and *rosse*; *souffler* and *souffleter*; *sensé* and *sensible*; *fonder* and *fondre*; *fond*, *fonts*, and *fonds*; *épancher* and *étancher*.

4. Mention the relative influence of the Latin and Celtic languages on the French language.

5. Characterize Lyric Poetry; sketch a parallel between J. B. Rousseau and De Lamartine.

GERMAN.

I.

Translate into English:—

So manches Jahr bewahrt mich hier verborgen
Ein hoher Wille, dem ich mich ergebe;
Doch immer bin ich, wie im erſten, fremd.
Denn ach, mich trennt das Meer von den Geliebten,
Und an dem Ufer ſteh'ich lange Tage,
Das Land der Griechen mit der Seele ſuchend;
Und gegen meine Seufzer bringt die Welle
Nur dumpfe Töne brauſend mir herüber.
Weh dem, der fern von Eltern und Geſchwiſtern
Ein einſam Leben führt! Ihm zehrt der Gram
Das nächſte Glück von ſeinen Lippen weg.
Ihm ſchwärmen abwärts immer die Gedanken
Nach ſeines Vater's Hallen, wo die Sonne zuerſt
Den Himmel vor ihm aufſchloß, wo
Sich Mitgeborne ſpielend feſt und feſter
Mit ſanften Banden an einander knüpften.

Goethe's Iphigenie auf Tauris.

II.

1. Give the first person of the perfect tense, indicative mood, of the following verbs:—laufen, mögen, müſſen, rathen, miſſen, and brechen.

2. What case do the prepositions mit, ohne, nach, für auch, durch, wegen govern?

3. Name the several divisions of the Germanic or Teutonic family of languages.

4. Specify the various characteristics of the article in the modern languages with which you are acquainted.

5. Mention the most celebrated works of Goethe, and give your opinion on the recent history of his life and works by Mr. G. H. Lewes.

APPENDIX II.

Examination for Honors—A.B.

ITALIAN.

Translate into English :—

I.

. . . . . La patria è un tutto
Di cui siam parti. Al cittadino è fallo
Considerar se stesso
Separato da lei. L'utile, o il danno,
Ch' ei conoscer dee solo, è ciò che giova,
O nuoce alla sua patria, a cui di tutto
E' debitor. Quando i sudori e il sangue
Sparge per lei, nulla del proprio ei dona ;
Rende sol ciò, che n' ebbe. Essa il produsse,
L'educò, lo nudrì ; con le sue leggi
Dagl' insulti domestici il difende,
Dagli esterni con l'armi. Essa gli presta
Nome, grado ed onor ; ne premia il merto ;
Ne vendica le offese ; e madre amante
A fabbricar s'affanna
La sua felicità, per quanto lice
Al destin de' mortali esser felice.
Han tanti doni, è vero,
Il peso lor. Chi ne ricusa il peso
Rinunci al benefizio ; a far si vada
D'inospite foreste
Mendico abitatore ; e là di poche
Misere ghiande, e d'un covil contento
Viva libero e solo a suo talento.

Metastasio. Attilio Regolo. Atto 2, Sc. 1.

II.

1. State the peculiarities that distinguish the use of the verbs *andare* and *stare*, and illustrate them by examples.
2. What is the difference between *bevea* and *beveva?*
3. Explain the cases when *che* is a relative pronoun or a conjunction. Give examples.
4. State the rule of the Italian participle which is imitated from the Latin.
5. Say what you know of the life and works of Metastasio.

Translate in French, or German, or Italian :—

"Among those who sustained the truth of Christianity by argument, rather than authority, the first place, both in order of time and of excellence, is due to Pascal, though his thoughts were not published till 1670, some years after his death, and, in the first edition, not without suppressions. They have been supposed to be fragments of a more systematic work that he had planned, or perhaps only reflections committed to paper, with no design of publication in their actual form. But, as is generally the case with works of genius, we do not easily persuade ourselves that they could have been improved by any such alteration as would have destroyed their type. They are at present bound together by a real coherence through the predominant character of the reasonings and sentiments, and give us every thing that we could desire in a more regular treatise, without the tedious verbosity which regularity is apt to produce. The style is not so polished as in the 'Provincial Letters,' and the sentences are sometimes ill-constructed and elliptical. Passages almost transcribed from Montaigne have been published by careless editors as Pascal's ; but the 'Thoughts of Pascal' are to be ranked, as a monument of his genius, above the 'Provincial Letters,' though some have asserted the contrary. They burn with an intense light ; condensed in expression, sublime, energetic, rapid, they hurry away the reader till he is scarcely able or willing to distinguish the sophisms from the truth they contain. Pascal had, probably, not read very largely, which has given an ampler sweep to his genius. Except the Bible and the writing of St. Augustin, the book that seems most to have attracted him was the 'Essays of Montaigne ;' yet no men could be more unlike in personal dispositions and in the cast of their intellect. But Pascal, though abhorring the religious and moral carelessness of Montaigne, found much that fell in with his own reflections in the contempt of human opinions, the perpetual humbling of human reason, which runs through the bold and original work of his predecessor."—*Hallam.*

CELTIC EXAMINATION.

26th September, 1857.

TRANSLATION FROM IRISH INTO ENGLISH.

Examiner, Dr. O'Donovan.

I.—Translate the following passage from the Annals of the Four Masters :

Aois Criost, míle céo caecca a trí. Aoó ua Maeleóin, comarba Ciaráin Cluana mic Nóis, tobar fonura 7 faidbrera Leithe Cuinn, fer co ndéisi 7 co ttrócaire, do éiriocnúgad a beatad. Colmán Ua Breislein, uasalfaccart Cenannsa, raoi ecsnaide eride, Dunlang Ua Cadail, comarba Caoimhgin, d'écc.

Cuairt Dál cCoirpre 7 Ua Eachach Uladh do tabairt la Flaithbertach Ua Brolcáin, comarba Cholaim Chille, 7 do bert each ó gach toisech, 7 caora ó gach deataig, fesperall, each, 7 cóicc mbó ó'n tigerna Ua Duinnsléibe, 7 uingi d' ór bec ó a muinter.

Muiredach ua Maoileachlainn, rí Temrach 7 Míde co na fortuathaib, Airgialla 7 eirnion Laigen, fri ré, tuile oidain, aideachair, 7 faer clandachta Ereann, d'écc i n-Dearmhaig Cholaim Chille.

Flaithbertach Ua Canannáin, tigerna Cenéil g-Conaill, 7 a ben, Dubcoblaig, ingen Toirdelbaig Ui Chonchobair, do bádad co luct luinge do daoinib i n-a brarrad, forr an bráithir fo erchomair Cairrge Droma cliab.

Domnall Ua Cadaraig, tigerna na Faithne, do marbad la Maelseachlainn mac Muirchada Ui Mhaoileachlainn 7 Conchobar mac Domnaill Ui Mhaoileachlainn do dallad leis beos.

Niall Ua Mórda, tigerna Laoighis, do légad a gemel la rí Laigean, Diarmaid Mac Murchada, iar na dallad dar gnádad laoch 7 cléirech.

Muirgius mac Mic Murchada uiroir, toisech Cloinne Tomaltaig d'écc.

Donnchadh, mac Tomaltaig Ui Rodhuib, d' écc iar ndeigbechaib.

Sluaiged la Toirdelbach Ua g-Conchobair co Doire an Gabláin a ccoinne Meic Murchada, rí Laigen, 7 tuc ingen Ui Mhaoileachlainn co na cruid uada co raibe for comus fer Mide. Táinig Tigernán Ua Ruairc ina deaid do'n cur sin, 7 ro fágaib bráigde occa.

Toirdelbach Ua Briain do ionnarbad i dtuaiscert Ereann la Toirdelbach Ua g-Conchobair, 7 Muma do roinn ar dó etir Thadg Ua mBriain 7 Diarmaitt, mac Corbmaic, mic Muiredaig Mec Cárthaig.

a. Give the date and history of St. Ciaran, and of the foundation of Cluain-mic Nois.

b. What is the history of the ancient division of Ireland into Leath Chuinn and Leath Mhogha ?

c. Where is Cenannus ? What is its present name and geographical position ? Its founder and history ?

d. Comharba Caoimhghin—what abbacy is thus described ? What is the meaning of the ecclesiastical title of Comharba ?

e. What are the districts denoted by Dál Coirpre and Ui Eachdhach Uladh ?

f. Give the modern names and geographical position of the other places and districts mentioned in this passage.

II.—Translate the following passage from Keating's History of Ireland :—

Cgur ir meimc gur ab iad na daoine ir glioca 7 ir foglamta do bíod a n-Eirinn, do tocaoi a b-flaitear do fmachtgad an uilc, 7 do comheangal na córa, 7 do trnadmad na fiochána, mar atá Flaingc mac Dealа, mic Loic, ra háirdbreiteam a n-Eirinn 'na aimrir féin ; Ollam Fodla. do bí foglamta, 7 Tigearnmur, a mac, do bí fearach mar an gcéadna, 7 Cormac mac Airt, do bí eolach 'gan breitheamnur tuaithe, 7 do fgriob "an Teagurc Rioġ." Cgur mar gin a túr na n-aimgear, ir iad luct an fgara, 7 an dream ba mó fonn do'n maitear puiblighe do méadughad, do tocaoi le fearaib Eirean ór cionn na g-criocc, go d-tainig Padruig, 7 neart na heagailge ; 7 ó tainig Padruig 7 neart na heagailge, ir ag na h-earbogaib, ag na huaighib, 7 ag na cromicib do bíod togha na fíoġ 7 na d-tigearnad go gabáltar Gall ; 7 na garma cleachtar anoir, mar atá barún, biocont, iarla, marcuéir, no duíce, níor cleachtad a n-Eirinn iad, act triath, tigearna, flaith, no rí, 7 a fonnad ó na criocaib do bíod 'n a feidh.

Translaton from English into Irish.

Translate the following passage into Irish :—

"And sure it is as beautiful and sweet a country as any is under heaven, being stored throughout with many goodly rivers replenished with all sorts of fish most abundantly, sprinkled with many very sweet islands and goodly lakes, like little inland seas, that will carry even ships upon their waters ; adorned with goodly woods, even fit for building of houses and ships, so commodiously, as that if some princes in the world had them, they would soon hope to be lords of all the seas, and ere long, of all the world ; also full of very good ports and havens, opening upon England, as inviting us to come unto them, to see what excellent commodities that country can afford; besides the soil itself most fertile, fit to yield all kind of fruit that shall be committed thereunto. And lastly, the heavens most mild and temperate, though somewhat more moist than the parts towards the West."—*Spencer*.

Irish Grammar and Literature.

Section I.

1. Explain the nature of the general rule which regulates the modern Irish orthography, and point out the difference between it and the ancient orthography.

2. What did the ancient Irish use instead of the modern diphthongs ao, ea, and io ? How did they represent the modern triphthong aoi.

3. Explain the nature of aspiration and eclipsis in modern Irish grammar. When does eclipsis take place in verbs ?

4. Decline the noun fear, *a man*, with and without the article an, *the*.

5. Decline the noun cluar, *an ear*, with and without the article.

6. Decline the noun fliab, *a mountain*, with the adjective ard, *high*, and with the article.

7. How are the degrees of comparison of adjectives formed, and how is the comparative distinguished from the superlative in construction ?

8. What are the usual initial changes in verbs, and by what influences are they caused ?

9. How is the past tense, indicative mood, active voice, of regular Irish verbs formed ?

10. How is the future tense, indicative mood, active voice, formed ?

11. How is the future indicative active of verbs in uigim formed ?

12. Describe the logical meanings of the verbs ir and ta.

13. How many irregular verbs are there, and in what does their irregularity principally consist ?

14. Conjugate the irregular verb ċiòim, or cim, *I see*.

15. How are adverbs usually formed ?

16. What is the natural order of an Irish sentence ?

17. When is the adjective placed before its substantive ?

18. When does the adjective *not* agree with its substantive ?

19. What adjectives are usually set before their substantives ?

20. What peculiarity of construction is observable in the infinitive mood active of Irish verbs ?

21. What influence have prepositions on the initials of nouns when the article is prefixed ; and on the initials of verbs when the relative is expressed or understood ?

22. Parse the following sentence, and quote the grammatical rules which regulate its construction :—
Cipgeao na ór ni fuil agamfa act an ní a ta beirim óib.

Section II.

1. What are the principal Irish MSS. still preserved on vellum, and where are they deposited ?

2. Who are the principal Irish writers whose works we have remaining in verse ?

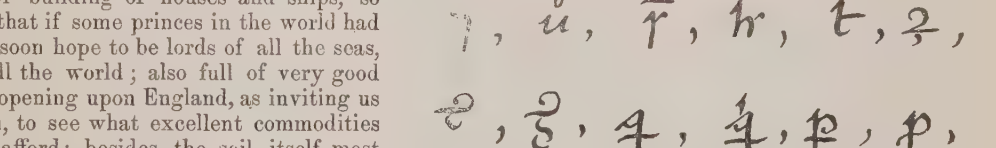
3. Who are the chief Irish writers in prose ?

4. Who are the chief Irish annalists, and when did they write ? How many of them have been published ? When, and by whom ?

Palæography.

1. Can the form of the characters employed in Irish MSS. be relied on as a proof that letters were in use in Ireland before the introduction of Christianity ?

2. How do you account for the use of the contractions



commonly found in Irish MSS. ?

3. Explain the following passage from Tirechan's Life of St. Patrick :—Et elegit unum filium ex ipsis cui nomen erat Macc Ercæ, et scripsit elementa, et benedixit eum benedictione patris.

4. What are the forms of the letters occurring on the earliest inscribed monuments in Ireland and Wales ?

5. To what class of continental MSS. are the early Irish minuscule MSS. most similar ?

6. Describe the character used in Irish MSS., from the time of the Book of Kells, down to the 17th century ; and lay down rules which may assist in determining the dates of Irish MSS.

28th September, 1857.—*Morning*.

Mathematics.

Examiner, George Boole, LL.D., F.R.S.

1. The sides of a triangle are in the proportion of 3, 5, and 7, and the radius of the inscribed circle is unity ; find the sides.

2. State, briefly, the nature of the argument called *reductio ad absurdum*, and illustrate it by Euclid, Book I., Prop. 39, "Equal triangles, upon the same base, and upon the same side of it, are between the same parallels." Is the *reductio ad absurdum* of less force than the direct forms of inference ?

3. Construct an isosceles triangle having a given vertical angle, and containing a given area.

4. Define a solid angle, and prove that every solid angle is contained by plane angles, which are together less than four right angles.

APPENDIX II.

Examination for Honors—A.B.

5. Define a plane, and having shown from the definition that its analytical equation is of the form

$$ax+by+cz=d,$$

show what series of planes that equation represents—1st, when d is arbitrary, and a, b, and c fixed in value; 2ndly, when a is arbitrary, and b, c, and d fixed in value.

6. Every equation whose roots are real has as many changes of sign as it has positive roots, and as many continuations of the same sign as it has negative roots.

7. Exhibit a method for investigating the sum of the nth powers of the roots of an equation. Determine the sum of the cubes of the roots of the equation

$$x^3+ax+b=0;$$

also the sum of the reciprocals of the roots.

8. Give Cardan's solution of a cubic equation, and show that it is not directly applicable when the three roots of the equation are real. Does it in that case admit of a trigonometrical transformation, which renders it available?

9. If p, q, r, are the perpendiculars from the angular points of a triangle upon the opposite sides, and ρ the radius of the inscribed circle; show that

$$\frac{1}{\rho}=\frac{1}{p}+\frac{1}{q}+\frac{1}{r}$$

10. State the general principle which is common to all methods of approximating to the roots of equations, whether algebraic or transcendental. Apply Horner's method to determine that root of the equation $x^3+8x^2+6x-75\cdot9=0$, which lies between 2 and 3.

11. The evanescent subtense of the angle of contact, in all curves which at the point of contact have a finite curvature, is ultimately in the duplicate ratio of the subtense of the conterminous arc—(Newton, Lemma XI.). What does Newton here mean by the evanescent subtense of the angle of contact? How would the proposition be expressed in the language of the doctrine of limits?

12. A body revolves in the circumference of a circle; required to find the law of force tending to any given point within the circle—(Newton, Prop. VII.)

13. Give any solution with which you are acquainted of the general biquadratic equation. In what particular point is it observed that all known solutions agree?

14. Explain, analytically, the generation of surfaces by means of generating lines and directrices; and show—1st, under what conditions such generation is possible; 2ndly, how the equation of the generated surface is determined.

15. Find the equation of the surface which is generated by a straight line, which always intersects the ellipse, whose equations are $\frac{x^2}{a^2}+\frac{y^2}{b^2}=1, z=0$, and the straight line whose equations are $z=h$, $y=0$, and which is, at the same time, always parallel to the plane whose equation is $x=0$.

16. Define probability in the mathematical acceptation of the term. When we say that the probability of an event is $\frac{2}{3}$, is that fraction to be regarded as the measure of the strength of our expectation of the event, or as the measure of certain data upon which expectation is founded?

17. Find the probability, 1st, that two only, 2ndly, that two at least, of four independent events, whose separate probabilities are $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, and $\frac{1}{5}$, will happen.

28th September, 1857.—*Afternoon.*

MATHEMATICS.

Examiner, George Boole, LL.D., F.R.S.

1. Explain the reductions by which the general equation of the second degree

$$ax^2+bxy+cy^2+dx+ey+f=0$$

is reduced to the form,

$$a'x^2+c'y^2=1$$

When is the proposed reduction impossible?

2. The locus of the intersection of two tangents to an hyperbola which are mutually perpendicular is a circle. Prove this.

3. Investigate, by the method of projections, formulæ for the rectangular transformation of co-ordinates in geometry of three dimensions, and exhibit the symmetrical relations among the co-efficients.

4. Trace the curve whose equation is $y=x\sqrt{\frac{a-x}{a+x}}$, and, in particular, determine whether it has any double points or rectilineal asymptotes. Explain the analytical theory of asymptotes.

5. The evolute of the logarithmic spiral is a similar spiral.

6. Investigate the conditions under which a function of two independent variables, x and y, admits of a maximum or minimum value, and exemplify their application.

7. Integrate the following differentials:—

$$\frac{(1-x\cos\theta)\,dx}{1-2x\cos\theta+x^2}\qquad\frac{x^3dx}{x^2+1}\qquad\frac{dx}{(1-x^2)^{\frac{3}{2}}}\qquad\frac{x^3dx}{(1-x^2)^{\frac{5}{2}}}$$

8. Find the envelope of a plane which cuts off from a cube a pyramid of constant volume.

9. Integrate the linear differential equations with constant co-efficients—

$$\frac{d^2u}{dx^2}+2\frac{du}{dx}-3u=x^3$$

$$\frac{d^3y}{dx^3}-4\frac{d^2y}{dx^2}+5\frac{dy}{dx}-2y=0$$

10. Illustrate by an example the method of determining the constants in the solution of a differential equation so as to satisfy given conditions.

11. Integrate the differential equation with variable co-efficients—

$$x^2\frac{d^2y}{dx^2}+2x\frac{dy}{dx}+(n^2x^2-2)\;y=0$$

12. State the chief cases in which non-linear differential equations admit of finite integration. In particular, integrate the equation

$$y-x\frac{dy}{dx}=x\left\{1+\left(\frac{dy}{dx}\right)^2\right\}^{\frac{1}{2}}$$

and verify the solution by means of the geometrical problem which the given equation represents.

13. Integrate the simultaneous differential equations—

$$\frac{dx}{dt}+\frac{dy}{dt}+6x+8y=0$$

$$\frac{dx}{dt}-\frac{dy}{dt}+2x-2y=0$$

14. Form and integrate the differential equations for the motion of a particle attracted to a fixed centre by a force varying as a function $f(r)$ of the distance. Examine particularly the case in which $f(r)=\frac{1}{r^2}$.

15. Two parabolas have their axes coincident, and the tangents to the one are chords to the other; find the locus of the middle points of those chords, and show that, under a particular condition, that locus is identical with the parabola to which the tangents are applied.

16. The projection on any of the co-ordinate planes of the line in which two surfaces of the second order intersect will in general be a line of the fourth order. Prove this. Show also that if the complete section consist of two portions, one of which is plane, the other will be plane also.

17. The radius of curvature of any normal section of a surface may be expressed in terms of the radii of curvature of the normal sections of greatest and least curvature, and of the angle determining the relative position of the section given.

18. Examine the form of the curve whose equation is $y=\frac{\sqrt{x}}{\sqrt{x}+\sqrt{1-x}}$. Show, too, by ordinary integration, that its area between the limits $x=0$ and $x=1$ is $\frac{1}{2}$.

19. Prove the following general theorem of definite integration—

$$\int_0^1\frac{\phi(x)dx}{\phi(x)+\phi(1-x)}=\tfrac{1}{2}$$

and compare it with the last statement in the previous question.

23rd September, 1857.—*Morning.*

MIXED MATHEMATICS.

Examiner, John Stevelly, LL.D.

1. Give a general demonstration of the principle of virtual velocities.

2. Show that the equation of *vis viva* is true of the motion of a particle subject to any fixed constraints without friction, and show that it is not true if friction enter.

3. Prove the isochronism of the cycloidal pendulum.

4. Investigate the condition which determines whether a projectile subjected to a central attraction, varying inversely as the square of the distance, shall move in an ellipse, parabola, or hyperbola.

5. Prove that we have sufficient conditions for the equilibrium of a rigid system, if the forces resolved in any three directions neither parallel nor in the same plane=0, and if at the same time the moments round any three axes neither parallel nor in the same plane=0.

6. Investigate the equations of the equimomental cone, and of the central ellipsoid.

7. Prove that, in collision, the quantity of motion gained by one body is equal to that lost by the other.

8. Prove that the diminution of gravity due to centrifugal force is nearly

$$=\frac{G}{289}\cdot \cos.^2 (\text{latitude}).$$

9. Investigate the final velocity of a heavy body let fall in a medium resisting as the square of the velocity.

10. Two particles are subjected to each other's attraction; prove, from the principle of areas, that the line joining them will continue during the motion parallel to a fixed plane.

11. Investigate the equation which connects the velocity of the governor of a steam-engine with the divergence of its balls.

12. If the forces acting on a rigid system be equivalent to X, Y, Z, L, M, N, find their moment round the line

$$\frac{x-x'}{\alpha}=\frac{y-y'}{\beta}=\frac{z-z'}{\gamma}$$

13. Three equal and uniform beams are jointed at top, and stand as a tripod on a rough horizontal plane; given the co-efficient of friction, find the limiting position in which they can stand with their feet equidistant.

23rd September, 1857.—*Afternoon.*

MIXED MATHEMATICS.

Examiner, John Stevelly, LL.D.

1. Describe the precession of the equinoxes, and mention the dynamical cause to which it is to be referred.

2. Describe the apparent motions of stars in different quarters of the heavens due to aberration, and point out the difference between these apparent motions and those which would result from annual parallax, if it were sensible.

3. Describe and account for the phenomenon of the harvest moon.

4. Show that the mass of a planet may be deduced from the periodic time and distance of a satellite.

5. Prove from the law of universal attraction, that Kepler's third law is very nearly true of the planets of the solar system, and point out why it is not rigorously true.

6. Explain why the attraction of the sun on the moon, though greater than that of the earth, does not draw the moon away from circulating round the earth.

7. Investigate the longitudinal spherical aberration of Lord Rosse's great mirror of 6 foot aperture and 54 foot focal length; and determine how much the figure which corrects it deviates from a sphere at the rim of the mirror.

8. Show that the relative index of refraction between any two media is equal to the fraction obtained by dividing the absolute index of the second, by the absolute index of the first.

9. Show that the index of refraction of the material of a prism may be determined by observing the deviation of a ray incident perpendicularly on one of its faces. Explain the process.

10. A small divergent pencil of rays is incident nearly perpendicularly on one side of an isosceles prism, and, after reflection at the base, emerges at the other side; find the conjugate focus of the emergent pencil.

11. Investigate the relations of position and magnitude of the object and image formed by a spherical reflector.

12. A ship enters a river from the sea (the specific gravity of whose water is, say 1·026): it is found to sink 2 inches deeper in the fresh water; but upon discharging 12,000 lbs. of its cargo, it has again risen 1 inch; determine the weight of the ship and cargo.

13. The specific gravity of pure gold is 19·3, and of copper, 8·8. What is the specific gravity of standard gold, which is an alloy of 1 part copper to 11 pure gold, supposing no penetration to take place when the gold is alloyed?

23rd September, 1857.—*Morning.*

PHYSICS.—*Examiner, John Stevelly*, LL.D.

1. Compare the quantity of electricity which will pass from one cell, through an apparatus whose resistance is 50, with that which will pass from two cells; the resistance of each cell being 10.

2. If a magnet be so mounted that it can revolve freely on its longitudinal axis, a current of electricity transmitted along half its length will cause it to rotate; show that this is a consequence of the ordinary laws of electro-magnetism.

3. In the electrotype process the strength of the solution in the decomposing cell may be maintained constant; state the arrangement which will effect this, and enumerate the chemical actions which will then take place in the cell.

4. Deduce from Ampère's Theory of Magnetic Currents the circumstances under which closed currents attract or repel each other.

5. If a wire, which forms part of a closed circuit, be parallel and close to a wire connecting the ends of a voltaic battery, state the phenomena of induction which can be made to appear in each circuit.

6. Describe how the law of escape of electricity, from a small insulated conductor, may be determined empyrically.

7. What led the early electricians into the mistake of supposing that conductors were always non-electrics?

8. One end of a long insulated conductor is brought near a ball charged with *positive* electricity; show that if it be now touched with a finger, whether at the farther, the nearer, or the neutral part, on removing the finger it will be left charged with *negative* electricity.

9. Describe the process for charging a gold leaf electroscope by induction, and explain why, if an uncharged conductor be then brought near the plate of the electroscope, the leaves collapse.

10. Assume the ordinary law of magnetic attraction, and that induction is, *cæteris paribus*, as the co-efficient of intensity of the inducing magnet; and, hence, show that two magnets of the same size, but of unequal strength, placed successively in the same position, relatively, to a piece of soft iron, will attract it with forces which are to one another as the squares of the strengths of the two magnets.

11. Why is it necessary to provide the needles of a ship's compass with sliding weights?

12. State the points of difference in the behaviour of iron and steel as magnetic bodies.

13. Light bodies floating on liquids sometimes approach and sometimes recede from one another; point out the conditions under which these effects will respectively take place.

23rd September, 1857.—*Afternoon.*

PHYSICS.—*Examiner, John Stevelly*, LL.D.

1. In examining the diffraction fringes from a narrow bar, at different distances, what law connects the in-

Appendix II. — Examination for Honors—A.B.

tervals observed between any given stripe (say the third) and the central stripe?

2. Mention the various ways in which light may be decomposed; and state the difference between pure and compound colours of the same tint.

3. Point out the cause of the black cross which is seen in some sections of uniaxal crystals placed in a polariscope, and the circumstances under which it will be seen.

4. What exception is there to the presence of this cross when the other rings are seen; and what explanation of this exception does the hypothesis of circular polarization supply?

5. Reconcile with the wave theory the rectilinear propagation of a beam of light.

6. If v be the velocity of light in a vacuum, and v' its velocity in glass, show that the index of refraction of glass will be $\frac{v}{v'}$, or $\frac{v'}{v}$, according as you adopt the wave or emission theory: and describe an experiment by which one of these results has been verified.

7. Show that the field of view of the common astronomical telescope may be increased by substituting for the eye-piece, consisting of a single lens, another, consisting of two lenses separated by an interval, and which together magnify to the same extent.

8. Explain the use of the large size of the photographic landscape lens, when the opening in the diaphragm in front of the lens is much smaller.

9. What is meant by the co-efficient of expansion of a gas? Is this co-efficient exactly the same for all gases?

10. State the modification which Regnault's experiments made in the law, according to which the sum of the sensible and latent heat of vapours was considered a constant quantity.

11. At what temperature is the tension of a gaseous vapour equal to the pressure of a column of mercury 30 inches in length?

12. Give a general description of the principal methods of determining the dew point.

13. Explain the meaning of the terms diathermanous and athermanous.

14. A spirit thermometer may be used to determine temperatures somewhat above the boiling point of spirit of wine. Explain why this is possible.

15. What properties in heat correspond to properties of light of different colours?

24th September, 1857.—*Morning.*

Chemistry.—*Examiner, Thos. H. Rowney*, ph.d.

1. Explain the terms, metameric, polymeric, and isomeric.

2. Explain Gerhardt's theory of the amides.

3. Describe the process for the ultimate analysis of an organic compound, containing carbon, hydrogen, and oxygen.

4. Describe the process by which Williamson formed the double ethers.

5. Describe the lactic acid and viscous fermentations.

6. Explain Liebig's theory of the formation of ether.

7. An organic acid, by combustion, gave C 66·66; H 11·11—O 22·23. A baryta salt of the acid yielded, by ignition, BaO, CO_2 46·59. What is the rational and empirical formula of the acid, and to what homologous series does it belong?

C=6; H=1; O=8; Ba=68·6.

8. Describe the preparation and properties of chlorine.

9. Give Graham's views of the constitution of the phosphates.

10. By what method may zinc, in solution, be distinguished from alumina, lead from bismuth, and magnesia from lime?

11. Give, in symbols, the action of ammonia on the compound ethers, and mention the constitution and properties of the compounds produced.

12. Give a short account of phosphorus; its preparation, properties, uses, and the different conditions in which it may exist.

24th September, 1857.—*Afternoon.*

Crystallography.

Examiner, Thos. H. Rowney, ph.d.

1. Define the six crystalline systems by their axes.

2. What is meant by predominant and secondary forms?

3. Describe the dodecahedron of the regular system, and give the formula of its faces.

4. In what manner is the tetrahedron derived from the regular octahedron?

5. Explain the terms, bevelment and truncature.

Heat, &c.

1. Describe the construction and graduation of a thermometer.

2. Give the differences between the chemical and physical properties of matter.

3. Give the law of elasticity of gases.

4. Explain the difference between heat and temperature.

5. Describe the method of obtaining solid carbonic acid.

6. Explain the formation of dew.

25th September, 1857.—*Morning.*

Zoology.—*Examiner, Professor W. Smith*, f.l.s.

1. Define the terms homology and analogy, as rightly employed in the description of animal organization, and give examples of the use of each.

2. Describe, briefly, and show the conformity to a general plan existing throughout, the process of digestion, as seen in the several classes of the animal kingdom.

3. Refer the following animals to their respective families, orders, and classes, viz.:—Xiphias gladius, Turdus merula, Chelonia imbricata, Castor fiber, Homarus vulgaris, and Ostrea edulis, and give the popular English name of each.

4. What is meant by a representative form in the distribution of animal life? Give illustrative examples in Quadrumana, Ruminantia, Pachydermata, and Marsupialia.

Botany.

1. Give a summary of the opinions that have been advanced regarding the mode of formation of the starch granule.

2. State the differences that exist between growth by gemmation and increase by reproduction, and give examples.

3. Give a sketch of the facts at present ascertained regarding reproduction in the plant, and harmonize the results as they appear in the different classes.

4. Give the principal diagnostic characters of the natural order Palmellaceæ; mention some of its more important genera, the limits of their distribution, and the economic uses of some of the more important species.

25th September, 1857.—*Afternoon.*

Geology and Physical Geography.

Examiner, Professor William King.

1. Give a synoptical table of the various sedimentary rocks, grouping them in three columns;—the first to contain the "classes" into which they are divided; the second, the "systems;" and the third, the "formations."

2. Name some of the characteristic fossils of the various "systems."

3. Name the principal British and Irish localities where the various "formations" occur.

4. Describe the origin and general character of igneous, metamorphic, and sedimentary rocks; and give examples of the principal kinds of each.

5. Account for the low temperature which prevailed in this region during the glacial period.

6. On what grounds do you explain the climatic differences between the eastern and western shores of the North Atlantic?

7. State what you know respecting the jointed structure of rocks, and the fissility of slates.

26th September, 1857.—*Morning.*

LOGICS.—*Examiner, Professor Moffett*, LL.D.

1. Investigate the relation of Logic to Psychology. What are the ultimate laws of thought which are concerned in the process of reasoning?

2. State the law of Contradiction, and the law of Excluded Middle. How are these laws enunciated by Aristotle? What is the law of the Sufficient Reason? Has it a *logical* significance? It rests ultimately, according to Leibnitz, on the law of Contradiction.

3. What is the history of the preservation of the works of Aristotle? Give an outline of the Organon, and show that there is no antagonism between it and the Novum Organum. Show that neither did Aristotle ignore *Induction*, nor Bacon *Deduction*. What are the *axiomata infima*, *media*, and *generalissima* of Bacon? What are the corresponding terms of *deductive* logic? Bacon asserts that the *axiomata media* of every science principally constitute its value; why? The actual progress of the sciences has not confirmed his anticipation as to the order in which scientific laws would be discovered. What was Bacon's "capital error?"

4. Very different views have been entertained as to the province and limits of Logic. What was Bacon's conception of its office? Hobbes'? Kant's? Whately's? The well-known sarcasm of Locke against the syllogism, that "it was not left to Aristotle to make men rational," proceeds on what erroneous assumption? Locke is inaccurate in ascribing to Aristotle the *invention* of syllogisms.

5. Each of the great schools of modern philosophy has had its representatives in the department of Logic; show this in the schools of Bacon, Descartes, Locke, and Leibnitz, respectively. How did the French Sensational School regard Logic? What logical treatises have emanated from that school?

6. Explain the following passage:—"The principles of Occam, developed by modern philosophy, would lead us to the logic of Kant; those of Scotus, almost to the logic of Hegel." What is the general character of Kant's logic; and what is the fundamental principle of Hegel's?

7. Explain the following criticism:—"The main error of Hobbes does not lie, as is sometimes said, in his theory of *notions*, but in that of *judgments*. He has overlooked the fact, that apprehension is primarily the analysis of judgments, not judgment the synthesis of apprehensions." In what consist Truth and Falsehood, according to Hobbes; and what is the source of his error?

8. Assuming alternately the truth and the falsehood of each of the logical propositions, A, E, I, and O, determine what formal inferences may be made with respect to the opposed propositions in each case. Why is Contradictory Opposition said to be the most perfect? Are A and O Contradictories? What is *Inconsistent* Opposition?

9. Distinguish and exemplify Analytic, Synthetic, and Identical judgments. To which of these classes of judgments are the laws of Contradiction and Sufficient Reason to be respectively referred? The distinction of Analytic and Synthetic judgments is of fundamental importance in Kant's system. How is it related to the distinction of *à priori* and *à posteriori* knowledge?

10. Hamilton deduces his doctrine of the Quantification of the Predicate from the "fundamental postulate of logic." State your opinion as to the value of this contribution to logic. How does this doctrine affect the Conversion of propositions? How does Hamilton justify against objections his enlarged table of judgments? What are "plurative" and "numerically definite" judgments? Why has their introduction into logic been objected to?

11. The pre-eminent power of the First Figure is shown in two features. Define and illustrate the process of "Reductio per impossibile," and show its conclusiveness. Reduce the following Conditional syllogism to a Categorical:—"If the Stoics are right, pain is no evil; but pain is an evil; therefore, the Stoics are not right."

12. The two kinds of Illicit Process are not fallacies lying equally deep. Define and illustrate the fallacies, "Plurium Interrogationum," "Ignoratio Elenchi," and "Arguing in a Circle." How are these fallacies to be severally obviated?

13. Criticise the following arguments:

(I).—"What happens every day is not improbable; some things, against which the chances are many thousands to one, happen every day: therefore, such things are not improbable."

(II).—"A body must either be in the state A or the state B; it cannot change in the state A; it cannot change in the state B: therefore, it cannot change at all."

(III).—"He to whom it is impossible to act otherwise is not a free agent; correct foreknowledge implies impossibility: therefore, man, whose actions are foreseen, is not a free agent."

14. Define "Petitio Principii." What Aristotelian expression does it profess to render? Discuss the allegation that every syllogism involves a "petitio principii." By what distinction does Mill propose to obviate this objection? What are the real logical antecedents or premises in a syllogism, according to Mill?

15. What is meant by *Inductio per simplicem enumerationem;* and in what consists the characteristic distinction between it and the Baconian method? Why is a single instance, in some cases, sufficient for a complete induction, while in others myriads of concurring instances, without a single exception known or presumed, go a very little way towards establishing a universal proposition? Can you give any example of a general law of nature inferred from a single instance?

16. What is Whewell's definition of Induction? Mill's definition excludes several operations to which the name of Induction is commonly applied. How far did Kepler's process of discovery illustrate genuine Induction? How do Whately and Mill differ with respect to the ground of Induction? Mention the principal points of difference between Whewell and Mill as to the nature of Induction?

17. State and illustrate the method of Residues.

18. The doctrine of the proportionality of effects to their causes must be carefully limited. What is meant by the mechanical, and what by the chemical, action of causes? Why is Mechanics a deductive science, and Chemistry not? Have we any grounds for expecting that the latter will ultimately become deductive? On what grounds has it been asserted that *Deduction* must henceforth be the predominating method in scientific investigation?

19. What is meant by the *explanation* of natural phenomena and natural laws? What is the definitive limit of such explanation? How does the question of Hypothesis come within the limits of inductive logic? How are hypotheses related to the deductive method? State fully the conditions of a legitimate hypothesis. Is an hypothesis to be received as true because it accounts for all the known phenomena? What vitiated the Cartesian hypothesis of the Vortices?

20. What is the scientific, and what is the ordinary, sense of Analogy? To what formula may all analogical reasoning be reduced? What cautions are necessary to be observed in reasoning by it? How is an analogical argument to be distinguished from an inductive one? When can analogy be used to establish a *positive* conclusion?

21. What is an empirical law? Define Chance and Probability; and mention some of the principles employed in the estimation of probabilities.

APPENDIX II.

Examination for Honors—A.B.

22. Distinguish necessary from contingent truth. Examine the following passage :—"It has been rightly remarked by Dugald Stewart, that mathematical propositions are not properly true or false, in the same sense as any proposition respecting real fact is so called. And, hence, the truth (such as it is) of such propositions is necessary and eternal, since it amounts only to *conformity with the hypothesis you set out with.*" State your opinion as to the foundation of mathematics, and give the views of Locke, Stewart, Whewell, and Mill, respecting the functions of axioms and definitions in mathematical reasoning. On what does mathematical science depend for its validity, according to Descartes and Kant, respectively?

23. Write down any classification of the sciences which you may prefer.

24. The abstract idea of Plato was not identical with the abstract idea of the Common Logic. Define the doctrines of Nominalism and Realism, and name the most eminent advocates of each. How does Cousin explain the rise of these antagonistic doctrines? He seems, however, to have misapprehended the point of the controversy. Who founded the sect of the Conceptualists? Point out the defects of their doctrine. Who were the Ultra-Nominalists?

26th September, 1857.—*Afternoon.*

METAPHYSICS.—*Examiner, Professor Moffett*, LL.D.

1. Explain what is meant by the "Inductive philosophy of the human mind;" and name some writers who have professed to exhibit this philosophical method in the departments of Psychology, Ethics, &c. How does Bacon express his determination to apply his method to the mental as well as the material sciences? Mention the principal successive steps of the Baconian Induction; and state to what extent—if any—this process is exemplified in Locke's Essay.

2. State the grounds on which Mill concludes that *Deduction* must be the predominating method in mental philosophy and social science. What is the *logical* form of the argument by which he arrives at this conclusion? What remarkable instance does he give of the extensive scope that exists for deductive investigation in mental science? What celebrated philosopher of the seventeenth century would you name as the type of the *demonstrative* or *deductive* metaphysician?

3. On what assumption is the argument from "Common Sense" founded? When a difference arises respecting first principles, what are the means of substantiating them? "Common Sense is like Common Law;" how? What was Kant's and Reid's criterion of fundamental principles of thought? The same test had been applied by earlier philosophers. The appeal to Common Sense has been sanctioned by Berkeley; where? Hamilton illustrates the argument by reference to the "very cardinal point of philosophy."

4. From what centre do the various paths of the great modern philosophical movement diverge? Enumerate the several theories of Perception that illustrate this divergence; state the fundamental principle, and name the most eminent representative of each.

5. Distinguish *presentative* from *representative* knowledge. What are the *representative* faculties? Distinguish the three forms of the representative hypothesis; and state the views of Leibnitz, Berkeley, Kant, and Reid, respectively, on this subject. What is the great argument of the Representationists; and to what dilemma is it obviously exposed? According to Hamilton, this system violates all the conditions of a legitimate hypothesis. Is it just to attribute to Locke any form of this hypothesis?

6. Name the most eminent representative of the Scholastic age in France; and give some account of his philosophical career. What two names stand at the head of the French philosophical movement of the seventeenth century? Indicate the most remarkable phases of French speculation from that period until the present, with their respective representatives.

7. With whose name does the great era in the philosophical history of Germany open? "The bold and vigorous metaphysicians of England first put in action the speculative movement of modern Germay." Verify this by tracing the influence of the doctrines of our three greatest metaphysicians.

8. State Bacon's division of the "Instauratio Magna." What did he assert to be the true aim of philosophy? What did he mean by "forms?" How might this term be defined in modern philosophy? What is the origin of the expression "prærogativæ instantiarum?" The principle of Bacon's *prerogative instances* seems to hold in our investigations of historical and legal evidence.

9. "Existence is necessary to perfection; hence a perfect being cannot be conceived without necessary existence." The substance of this argument has appeared under different forms at different periods of philosophy; examine its validity. Enumerate the principal articles of the Cartesian philosophy.

10. "Spinoza's philosophy," said Leibnitz, "is extreme Cartesianism." In what principle of the Cartesian philosophy do we find the germ of Pantheism? What was Spinoza's famous dilemma in proof of the unity of Substance, and how is it refuted? What is the fundamental fallacy of Spinozism?

11. Indicate the principal points of agreement and difference between the systems of Descartes and Leibnitz. What was the great aim of the philosophy of Leibnitz? What, in his judgment, was the capital error of the Cartesians? How did he regard Space? How was this view connected with his theory of Monads? Explain this theory. "Each Monad," he says, "is a mirror of the universe;" how has this been understood?

12. How do you understand the remark, that "the Essay on the Human Understanding is a work of Psychology, not of Ontology?" Compare Locke's method with that of Kant. State generally the subjects of the several books of the Essay. What, according to Cousin, are the principal merits of the Essay; and what is the source of all its errors? Enumerate the several ideas which, in his opinion, Locke's theory is inadequate to account for. How would Locke have replied?

13. Who is the father of modern Sensationalism; and in whose doctrines did this system attain its utmost limits? What is the perpetual error of the Sensationalists? How is Locke's system distinguished from that of the French Sensational school? Explain Whewell's remark, that "Ideas are not *trans*formed, but *in*formed Sensations." What are the views of the Ideologists? Name the most eminent representatives of this school. How do they attempt to account for the Memory, Attention, &c.? Examine this system critically. How would you modify the formula—"In Intellectu nihil est quod non prius fuerit in Sensu," according to the views of Leibnitz and Kant?

14. Distinguish *absolute* from *relative* Space. Locke's views on the subject of Space have been misunderstood. How does the Infinite differ from the Indefinite? What is Locke's account of the former idea? Some philosophers attempt to prove that we have a *positive* idea of the Infinite; on what grounds?

15. "La Volonté est la mesure primitive du Temps." On what grounds has this proposition been maintained? What is Kant's conclusion as to the nature of Time; and what are his premises? Do you think his argument conclusive?

16. "La solidité n' implique pas en soi que cette solidité soit etendue." What theory is alluded to in these words; and what is its defect? What classification of the qualities of Matter do you adopt? The primary qualities are developed by Hamilton from a single datum. What is his complete classification; and under what sciences does he rank his three orders? State and examine Berkeley's *argumentum ad hominem* in reference to the qualities of matter. How are the primary qualities regarded in Kant's system?

17. What is the ground for believing that "every change must have a cause?" Give an exact definition of Cause; and point out the defect of Brown's theory. Locke seems to vacillate with respect to the origin of this idea. What words of Locke seem to have suggested

De Biran's theory? The word *induction* used by De Biran seems inappropriate, whether used in its Aristotelian or Baconian sense; why? "According to this theory," says an eminent critic, "anthropomorphism becomes a universal law of human thought;" examine this criticism.

18. What philosophers, in ancient and modern times, have attempted to give an accurate enumeration of the principles of Association? Mention some of the proposed classifications. What are the Secondary laws of Association?

19. It is often said that Locke's account of Knowledge leads to scepticism; and the history of philosophy is appealed to in proof of the allegation: examine the grounds of this charge; and state your opinion as to its justice.

20. Expose the fallacy of the vulgar objection against the natural existence of moral distinctions. Show that Locke has been treated with injustice by some of his critics in reference to this subject. How does Locke endeavour to establish a similarity between moral and mathematical truth?

21. Give an exact definition of Immaterialism. What is the great argument of the Immaterialists? What is Nature; and what are Laws of Nature in Berkeley's system? "This tenet" (belief in an external world) says Berkeley, "will be found to depend on the doctrine of abstract ideas:" trace the connexion? How is the Idealism of Fichte different from that of Berkeley? On what grounds may these systems be impugned?

22. What question is the centre of Hume's philosophizing? Give a summary of his premises and conclusions with respect to human knowledge. How has his scepticism been met?

23. What is the point of the celebrated comparison between Copernicus and Kant? What question does Kant place at the head of his whole Critick? What does he mean by saying that the Mind, in perception, knows *phenomena* only? Is he justified in asserting that the objects of our intuition *are not* in themselves as they *appear* to us?

24. What is the office of the Understanding; and what that of the Reason in Kant's system? What eminent poet-philosopher of England has maintained a similar distinction of faculties? How are the laws of the Understanding applied to sensible phenomena? State precisely the functions which Kant ascribes to Time in this process. How is its nature adapted to these functions? What was Kant's conclusion from the Antinomies? What is the bond between the speculative and the practical sphere in Kant's system? Whence did he infer a self-determining power in man? Point out the main defects in Kant's metaphysics.

25. What was the Platonic meaning of the word Idea? The ambiguity of the term led to much controversy between Descartes and Gassendi. In Locke it performs two incongruous functions.

26. Various opinions have been entertained as to the nature of Consciousness. If it be a special faculty, what are its objects?

27. Define and distinguish Sensation and Perception. What constant relation exists between them, according to Hamilton? Does Perception afford *real* or *apparent* truth?

28. Can we reason without language? What was Leibnitz's distinction of *intuitive* and *symbolical* cognitions; and how was it applied?

28th September, 1857.—*Morning.*

JURISPRUDENCE.

Examiner, *D. Caulfeild Heron*, LL.D.

1. Distinguish Jurisprudence, Political Economy, and Ethics.

2. There are five principal rules concerning the method of codifying laws.

3. Define *utility*.

4. Bentham enumerates four sanctions.

5. Should the principle of "limited liability" be extended to—

(*a*) Banking Companies.

(*b*) Partnerships of more than six persons engaged in manufactures or other wholesale trades.

(*c*) Partnerships of more than six persons engaged in the retail trade.

(*d*) Ordinary wholesale or retail merchants or traders.

State, concisely, the reasons for the propositions which you adopt.

6. What is the use of the workhouse system in the relief of the poor? What are the objections to the system of out-door relief?

7. The relief works in Ireland, during the famine 1846-1847, were unproductive. What function did they really discharge?

8. What is the meaning of the "parliamentary title" conferred by the Incumbered Estates Commissioners? What change in the law does it imply? What are the advantages and risks of extending the system of the Incumbered Estates Commission to estates not incumbered?

9. Sir James Mackintosh states the natural order to be followed in a treatise on Jurisprudence.

10. Sir James Mackintosh sketches a course of Criminal Jurisprudence.

11. On what basis does Sir James Mackintosh rest the rights of acquisition, alienation, and transmission, of property?

12. Upon what principles is based the rights of inheritance? In legislation, how far should absolute freedom of bequest be limited?

13. Define the following terms:—*Common Law, Statute Law, Equity, Civil Law, Criminal Law, the Constitution.*

14. Explain the doctrines of the positive and the negative community of things. By what jurists were those doctrines respectively held?

15. Explain the functions of government.

16. Explain the terms, *justitia attributrix, justitia expletrix, jus naturale, jus gentium, jus civile.*

17. Obscurity in law, according to Lord Bacon, derives its origin from four things.

18. What does Lord Bacon state to be the foundation of private law?

19. Bentham, Hume, and Paley, have committed the same error with respect to moral philosophy.

20. Reddie states the principal causes of vagueness and obscurity of thought amongst modern jurists.

21. In the reform of the statute law, proposed by Lord Bacon, there are four objects to be kept in view.

28th September, 1857.—*Morning.*

JURISPRUDENCE.

PAPER, No. 2.

Examiner, *D. Caulfeild Heron*, LL.D.

1. Lord Bacon says, in omitted cases a three-fold remedy or supplement is employed.

2. Explain the terms *Courts Prætorian and Censorial.*

3. Lord Bacon states the true method of digesting the Statute Law.

4. There are five methods of expounding law and solving doubts.

5. Lord Bacon states the correct method of reporting the judgments of the courts.

6. The auxiliary books of law are six in species.

7. What are the causes of the instability of judgments?

8. Reddie characterizes the advantages of method in the study of law.

9. There are two modes of framing new statutes.

10. Almost all the relative duties of human life arise out of two great institutions.

11. What refinement in the science of jurisprudence is denoted by the term *philosophy of law* as opposed to the term *jus naturæ?*

12. There are three classes of human actions which do not come within the cognizance of justice.

APPENDIX II.

Examination for Honors—A.B.

28th September, 1857.—*Afternoon.*

POLITICAL ECONOMY.

Examiner, D. Caulfeild Heron, LL.D.

1. Whether does the free importation of foreign productions increase or diminish the general demand for labour in a country? Prove the proposition which you adopt.

2. Mr. Senior discusses seven opinions inconsistent with the proposition, that the proximate cause deciding the rate of wages is the extent of the fund for the maintenance of labourers compared with the number of labourers to be maintained. Enumerate them.

3. State, concisely, the true law regulating the rate of wages, and illustrate it by the rate of wages and the price of provisions in France, the United States, London, Manchester, Belfast, Connemara, Hindostan, and China.

4. The gross profits of any trade may be divided into three distinct parts, the amount of which is determined by different laws. State the principle of division, and thence explain the fact stated by Mr. Mill, that the same article may have two prices at the same time, and in the same place.

5. Adam Smith enumerates four trades, which it is possible for a Joint Stock Company to carry on successfully without an exclusive privilege. What are they? The development of society has produced other such trades since the time of Adam Smith. Enumerate them. Describe, briefly, the species of business which can be carried on successfully by a Joint Stock Company.

6. What are Adam Smith's four maxims on taxation? State, with regard to each of the following taxes, the extent to which they conform to Adam Smith's four maxims:—

(*a*). The penny postage stamp.
(*b*). The penny receipt stamp.
(*c*). The duty on paper.
(*d*). The excise duties on home-made spirits.
(*e*). The duties on foreign wines.
(*f*). The duties on tea and sugar.
(*g*). The duties on fire and life insurance.

7. What effect is each of the following circumstances calculated to have upon the price of the 3 per cent. consols, and why?

(*a*). A bad harvest.
(*b*). A government loan.
(*c*). A sensible fall in the value of gold.
(*d*). The payment of the public dividends.

8. Sketch the history of the Income Tax in the United Kingdom, from its first enactment to the present time.

9. Reduce the currencies of England, France, and the United States into one decimal currency.

10. In what reigns, severally, were shillings, crown-pieces, half-crown pieces, guineas, and sovereigns first coined in England?

11. Enumerate the five different species of bills presented to a bank for discount.

12. What are the chief points in which a Joint Stock Bank differs from a private bank?

13. How were the issues of the Bank of England regulated—

(*a*). During the suspension of cash payments?
(*b*). From 1819 to 1844?
(*c*). Since 1844?

14. What is the use of a currency?

15. What is the most simple and perfect form of currency?

16. "*Consols* for money opened at 90½ to ⅝, whence, owing to purchases on the part of the public, they went to 90⅝ to ¾. There was then a decline to 90⅝ to ½, which was the last official quotation. For the 9th of September they left off at 90½ to ⅝. *Bank Stock* closed at 214½ to 215½; *reduced*, 91; *new three per cents.*, 91⅛; *India Stock*, 210 to 213; *India Bonds*, 20*s.* to 16*s.* discount; and *Exchequer bills*, 4*s. discount to par*."—*Times*, August 28, 1857.

Explain the different technical terms marked in *Italics*, in the above quotation from the *Times*.

17. State, concisely, the economic advantages of the system of appointment by competitive examination to the civil and military services of the State.

EXAMINATION FOR THE DEGREE OF LL.B.

Examination for the Degree of LL.B.

23rd September, 1857.—*Morning.*

LAW OF PROPERTY AND PRINCIPLES OF CONVEYANCING.—*Examiner, Mr. Drury.*

1. What is the rule in Shelley's case?

2. If lands are given to a man and his wife, and the heirs of their bodies, and they are divorced *a vinculo matrimonii*; what estates do they respectively take in the lands as well before as after such divorce?

3. Lands are granted in joint-tenancy to husband and wife, and a third person. In what shares do these parties take the lands?

4. In what respects does an estate in co-parcenary differ from an estate in joint-tenancy?

5. An estate is granted to A and his heirs, to hold to him for life; what estate does A take?

6. Freehold estate is limited to such uses as A may appoint. A appoints to B and his heirs, to the use of C and his heirs, in trust for D and his heirs. What estates do B, C, and D respectively take?

7. What is the effect of a devise to an alien?

8. Is an alien capable of taking lands by descent?

9. What are emblements. Has there been any, and what recent alteration, in the law relating thereto?

10. In a settlement on marriage, certain freehold lands were settled upon the husband for life, and after his decease upon trust for all and every the child and children of the marriage, and their issue, equally to be divided between and amongst them, as tenants in common, and his, her, or their respective issues. At the death of the husband there were three children and one grandchild, the only child of a deceased child; what estates do the children and grandchild respectively take?

23rd September, 1857.—*Morning.*

JURISPRUDENCE.

Examiner, D. Caulfeild Heron, LL.D.

1. There are three principal causes of obstruction to the progress of the scientific cultivation of law.

2. What is the marked distinction of the virtue of justice from the other virtues; and who first pointed out the distinction?

3. Savigny states the essence of the historical view of the science of law.

4. Savigny gives three proofs that the law arises from the common consciousness (*gemeinsamen bewusstseyn*) of the people.

5. In the formation of language, what class bears an analogy to the class of lawyers in the formation of law?

6. Savigny defines "*the State.*"

7. What is the true line of damarcation between private and public law?

8. There are two classes of actions which show themselves in a pre-eminently efficacious manner in both the respects in which custom is important as the distinguishing mark of positive law.

9. Savigny states the danger of compiling a complete statute book or code.

10. "Every man feels himself called upon to the exercise of the power of control and disposal over unfree nature; but we must equally recognise the same vocation and power in every other man; and from this opposite reciprocal recognition there arises, through the numerous and extensive points of contact among individuals, a want or necessity for an equal arrangement or accommodation, which at first sight appears an in-

terminable one, and can only find satisfaction and tranquillization in a determinate restriction and limitation. Now, the satisfaction of this want of accommodation follows, or is effected by means of the community in the state, through Positive Law. If we here ascribe to the state the common dominion over unfree nature within its own boundaries, individuals appear as participators in the common dominion, and the problem consists in this,—to find a definite rule, according to which the apportionment amongst individuals may be carried into effect. For such a division and apportionment three ways are given, which must not be contemplated in an exclusive relation to each other, but may rather, in some measure, come to be employed and applied in practice simultaneously."—*Savigny: System des heütigen Romischen Rechts, s. 55.* What are the three ways here designated?

11. Bentham says, that all the operations of judicature range themselves under two great heads,—first, a violated right; secondly, a disputed right. Explain this.

12. There are four well marked degrees in a juridical cause.

13. Whence does the necessity for the number and distribution of tribunals in a country arise?

14. There are four great advantages attributed to the English system of circuits.

15. There are three inseparable inconveniences attached to circuits.

16. Bentham draws two inferences from the history of courts consisting of a number of judges.

23rd September, 1857.—*Afternoon.*

EQUITY.—*Examiner, Mr. Drury.*

1. Is an executor justified in paying a debt which is barred by the Statute of Limitations?

2. What is meant by part performance of a contract, and what acts are considered as part performance, so as to take a case out of the operation of the Statute of Frauds?

3. Will a Court of Equity, in any and what cases, relieve against the forfeiture of a lease occasioned by the breach of a contract contained in such lease?

4. Have the judgment creditors of a bankrupt any and what priority over other creditors in bankruptcy?

5. Are there any and what settlements made by a trader before his adjudication as a bankrupt, which are deemed not valid?

6. Explain what is meant by the *cypres* doctrine, as applied to charitable bequests?

7. Money is devised to trustees to be laid out in the purchase of lands, which lands are to be settled upon A and his heirs. A desires to have the money *in specie*. Will the trustees be justified in paying A?

8. Suppose A, in the preceding question referred to, to have died before the money is paid to him; to whom will such money belong?

9. What are legal assets, and what are equitable assets?

10. Does a Court of Equity adopt the same rule in the administration of legal assets and of equitable assets?

11. Will a direction for the payment of debts, in a will of personal estate, prevent the running of the Statute of Limitations?

12. A purchases Greenacre, and takes his conveyance in the name of a stranger; subsequently A purchases Blackacre, and takes his conveyance in the name of his son. Is the legal result of the two purchases the same in each case?

23rd September, 1857.—*Afternoon.*

COMMON LAW AND CRIMINAL LAW.

Examiner, Mr. Drury.

1. Under what circumstances may an executor retain for his own debt; does the same rule obtain in the case of an executor *de son tort?*

2. Lands are demised to A for a term of years—A dies and appoints B his executor. The demised lands are of less value than the reserved rent. Are the assets of A liable to the landlord, and if so, to what extent?

3. In the state of facts referred to in the preceding question, suppose the assets of A to have been applied in discharge of debts of A, existing prior to any default in the payment of the landlord's rent; how far is B, the executor, liable, and what course ought he adopt, if sued for the rent?

4. In what cases is an infant liable for the breach of his contract?

5. What are meant by fixtures?

6. What is the effect of a certificate being granted to a bankrupt?

7. A, seized in fee, dies intestate, to whom do the emblements on his land belong—to his heir or personal representative?

8. Is the bare intention to commit a crime punishable by our law?

9. What is the Common Law offence of arson?

10. Must there be an actual burning to constitute the offence of arson? Would any degree of negligence amount thereto?

11. Define the crime of treason.

12. Can *mere* words spoken amount to treason?

13. Could larceny be committed at Common Law of animals *ferœ naturæ* and *domitæ naturæ?*

23rd September, 1857.—*Afternoon.*

CIVIL LAW.

Examiner, D. Caulfeild Heron, LL.D.

1. What were the Comitia Curiata, the Comitia Centuriata, and the Comitia Tributa?

2. Distinguish *jus gentium* from *jus civile.*

3. The jurisdiction of the Prætor was divided into three parts. To what were they respectively analogous in the Law of England?

4. Vinnius enumerates three species of guardianship.

5. *Legitimæ tutelæ* were of four kinds.

6. Explain the *jus in re*, and *jus ad rem.* To what are they respectively analogous in the Law of England?

7. What was the *jus postliminii?*

8. Explain *usufructus*, *usus*, and *habitatio.* To what are they analogous in the laws of England and Scotland?

September, 1857.

PLEADING, PRACTICE, AND EVIDENCE.

Examiner, Mr. Drury.

1. A feme covert dies possessed of chose in action; A, her husband, after her decease, brings an action to recover same, without taking out administration to his deceased wife; can such action be maintained?

2. Can illegality be pleaded as a defence to an action on a bond?

3. A brings an action of covenant for rent against his tenant B; B pleads his bankruptcy; can such defence be sustained?

4. A and B are the joint and several makers of a promissory note; may an acknowledgment of A that the debt is due be given in evidence in an action by the holder of the note against B?

5. Are declarations made *post litem motam* admissible in evidence, and when is the *lis* considered to have commenced?

6. What is the proper evidence of the appointment of an assignee in bankruptcy?

7. Is the evidence of custom or usage receivable to explain the meaning of a contract in writing?

8. Is it necessary, in every case, to prove the execution of a deed by the subscribing witness? Did the rule of law on this subject, which now obtains, always prevail?

9. How is security for costs to be obtained?

10. Within what time must an application to set aside a verdict be made?

APPENDIX II.

Examination for the Degree of LL.B.

11. Within what time must a defendant appear and plead to a summons and plaint?

12. What is meant by oyer of a document, and what will entitle a party to crave oyer?

24th September, 1857.—*Morning.*

CONSTITUTIONAL LAW.

Examiner, D. Caulfeild Heron, LL.D.

1. Define Constitutional Law.
2. Explain the phrases *cabinet* and *minister*.
3. State the provisions of the Habeas Corpus Act, 31 Car. II., c. 2. Have these provisions been modified?
4. When was the militia first established?
5. Give the dates and principal provisions of
   (*a*) Magna Charta;
   (*b*) The Petition of Right;
   (*c*) The Bill of Rights.
6. Give an historical account of the abolition of villeinage.

24th September, 1857.—*Morning.*

COLONIAL LAW.

Examiner, D. Caulfeild Heron, LL.D.

1. Describe the constitution and government of
   (*a*) British India.
   (*b*) Australia.
   (*c*) Canada.
   (*d*) Jamaica.
   (*e*) The Ionian Islands.
   (*f*) Hong Kong.
2. Sir George Cornewall Lewis enumerates the advantages which a dominant country is supposed to derive from a dependency.
3. Mention the resolutions of the Privy Council previous to 1722, as to settled colonies, conquered colonies, and their laws.
4. Under what modification is the Civil Law established in the British colonies of Guiana, Cape of Good Hope, and Ceylon?

24th September, 1857.—*Morning.*

INTERNATIONAL LAW.

Examiner, D. Caulfeild Heron, LL.D.

1. Describe the principal changes in the mode in which International Law has been cultivated during the following periods:—
   (*a*) From the age of Grotius to Puffendorf;
   (*b*) From the age of Puffendorf to that of Wolf and Moser;
   (*c*) From the age of Wolf and Moser to that of Von Ompleda and Von Martens.
2. What circumstances have led to the successful cultivation, in the United States of America, of that branch of International Jurisprudence relating to the conflict of laws?
3. What principle of International Law was involved in the late Anglo-French war against Russia?
4. What traces of the cultivation of International Law do we find in Roman history?
5. What distinctions between maritime and land warfare are recognised by the existing law of nations?
6. Civilians have divided statutes into three classes.

Examination for Honors—LL.B.

EXAMINATION FOR HONORS—LL.B.

September, 1857.

LAW OF PROPERTY AND PRINCIPLES OF CONVEYANCING—*Examiner, Mr. Drury.*

1. Is there any and what limit to the period within which an executory estate must arise?
2. Has the doctrine of perpetuity any and what application to personal estate?
3. By a will which took effect the 31st January, 1830, a testator devised lands to A and his heirs; but in case A should die under age, to B and his heirs; can B, during the infancy of A, dispose of his expectant interest?
4. Suppose the will in the preceding question referred to, to bear date the 31st of January, 1850, would the same result follow?
5. Devise to trustees to the use of A for life, remainder to the use of the first and other sons of A and in default of such issue, over; what estate does A take?
6. Devise to trustees to the use of A and his heirs; but in case A should die without issue, or such issue should die under twenty-one, then over; what estate does A take?
7. Devise to A and B and their heirs, equally to be divided between them; and in case they happen to die without issue, then over; what estates do A and B take?
8. A husband covenants to settle any property which his wife or he in her right might subsequently acquire; does such covenant embrace property given to the wife for her separate use?
9. A agrees to purchase an estate from B; and upon the estate being conveyed, to grant a life annuity to B, to be secured by bond; has B any lien on the estate for the purchase-money?
10. In what cases is a purchaser, when dealing with a trustee, required to see to the application of his purchase-money; and when not?
11. Lands are devised to the use of a married woman for life, with remainder to her first and other sons, in tail male. The husband, the tenant for life, is convicted of felony, and transported; who is the protector of the settlement?

September, 1857.

JURISPRUDENCE.

Examiner, D. Caulfeild Heron, LL.D.

1. There are three phases in the development of law. Illustrate them by the history of—
   (*a.*) The Laws of Procedure.
   (*b.*) The Laws of Evidence.
2. Define the system of castes. State the principal countries in which castes still prevail, and, briefly, the social results. Upon what erroneous principle did Plato advocate the system of castes?
3. The land revenue of British India is collected under three distinct systems. The Zemindary settlement of Bengal is a fixed assessment made with a class of landholders whom the Government of 1793 recognised as the legitimate owners of the soil. The amount payable to Government on each estate is paid in perpetuity; and so long as the Zemindar pays the fixed amount of assessment punctually to the Company, he and his descendants remain, at this fixed rate, in possession. Under the Ryotwar system the Government let the land to the cultivator generally on an annual lease. The amount of rent is increased or diminished each year according to the ascertained value of the holding. The assessor fixes the amount to be paid, and the Ryot takes it or not as suits his convenience. The third system, now in force in the north-western provinces of India, is a system of long leases, settlements made for twenty or thirty years, with different descriptions of tenants. The village communities have been recognised wherever they existed in a perfect state; and each village, whether the proprietary right was claimed by an

individual or by a community, was made the limit of a separate settlement.

(*a.*) Do you approve of any, and which of these systems.

(*b.*) Suggest an approved scheme for the collection of the land-tax.

4. With respect to the election of representatives in Parliament, state the advantages and disadvantages of voting by lists, or separately for each candidate, or for each two, or three, or four candidates, according to the number of representatives the electoral division may have.

5. Whether do you approve of the system of collecting the suffrages by means of the electors voting at a predetermined place and time, or by means of voting papers left at the houses of the electors, and collected by a public officer? State the advantages and disadvantages of each system.

6. Whether do you consider that the electoral division should possess only one representative, or more than one representative? State the advantages and disadvantages of each system, especially with regard to the representation of the minority.

7. It has been proposed by some publicists, that each elector in the community should be allowed one vote for one candidate, and that the requisite number of candidates who might have the majority of suffrages from the entire country should be elected. Under this plan there would be no electoral divisions. What advantages, under this system, would distinguished public men possess in reference to their election? State briefly your opinion of such a plan.

8. To what does Locke attribute the superiority of the English and Dutch Governments?

9. Define a *dependency* and a *colony*. What are the characteristics of a subordinate government?

10. What is the rule of the English Law respecting the communication of the statute and common law of the mother country to an English colony? It produces two singular consequences.

11. The laws of a dependency are peculiarly liable to one objection.

12. There is one great practical difficulty in introducing into any country, a foreign system of judicial procedure.

13. State the principal plans which have been suggested for giving a dependency efficient popular security against misgovernment, and for reconciling those securities with its perfect dependence upon the dominant country.

14. Sir George Cornewall Lewis remarks, that the leaders of a popular party in a dependency are uncontrolled by the restraints under which the leaders of a popular party are controlled at home. What are these restraints? State the British colonies to which this remark does not now apply.

15. Sir George Cornewall Lewis enumerates the means of uniting popular securities in the dependency with its virtual dependence.

16. Bentham gives four rules for measuring the depravity of disposition indicated by an offence.

17. Mr. Mill states the importance of good laws as to insolvency.

18. What are the grounds and limits of the laisser-faire, or non-interference principle, in respect of governmental intervention in the affairs of society?

19. Lord Bacon divides preceding writers on law into two classes; what objection does he make to each class? And in what way does he suggest that the science of law should be treated?

20. In what way may the merits of Jeremy Bentham's works on Jurisprudence be satisfactorily tested?

21. Why are the sanctions of human laws vindicatory rather than remuneratory?

22. To what institution does Hallam attribute the uniformity of the Common Law of England?

23. What are the objections to hearsay evidence? In the law of England the rule against hearsay evidence has been relaxed in six cases.

24. Define direct and circumstantial evidence. What species of fallibility are incident to direct, and what to circumstantial evidence? and what caution should be adopted in the use of such evidence, respectively?

25. State, in your opinion, the principal circumstances which led to the verdicts of the juries in the cases of William Palmer, Madeleine Smith, and James Spollen, respectively.

26. A represented to B that he had done a certain quantity of work, and claimed a certain sum as due to him by B, in respect of such work. B paid A the amount claimed, although he knew that the representations of A were untrue—[*Regina* v. *Mills*, 3 *Jurist, New Series*, 447, *Cr. Cas. Res.*] Under the above state of facts, did A commit any, and what offence, cognizable by the criminal law? or could the money be recovered by a civil action. What ought to be the law in such a case?

September, 1857.

EQUITY.—*Examiner, Mr. Drury.*

1. What are the requisites of a contract, the specific performance of which a Court of Equity will enforce?

2. Will a Court of Equity, in any case, decree the specific performance of a contract relating to land, when the agreement is not in writing?

3. In what cases will Equity enforce the contracts of a *feme covert?*

4. In the administration of the assets of a deceased person, are all his judgment debts regarded as in the same priority?

5. In what cases will a suit in Equity for an account lie at the instance of a principal against his agent?

6. In what cases will a set-off be allowed in Equity? Will the mere existence of a cross demand be sufficient?

7. State the acts which, *per se*, constitute acts of Bankruptcy.

8. What is the doctrine of Courts of Equity with respect to double portions?

9. Lands are devised to trustees in trust for A for life, and after A's death to be sold, and the produce paid to B, his heirs and assigns. B dies in the lifetime of A. To whom does the interest devised to B belong?

10. Lands are devised to B for life, with remainder to such one or more of his children, their, his, or her heirs, for such estate, and in such manner and form, as X shall appoint. X appoints to one of A's grandchildren. Can such appointment be supported?

11. Can a suit in Equity be maintained for the specific performance of a contract to transfer Government Stock? Explain the principles upon which a Court of Equity proceeds in such cases.

September, 1857.

COMMON LAW AND CRIMINAL LAW.

Examiner, Mr. Drury.

1. Has a landlord a right to distrain the goods of a bankrupt for an arrear of rent due by him?

2. Are emblements liable to be distrained for rent?

3. A composition deed, between a debtor and his creditors, provided that those who came in under it should thereby release their debts. Can a creditor having a security by lien, first realize his lien, and then prove for the balance due?

4. What is meant by a *del credere* commission?

5. As between landlord and tenant, what fixtures may the tenant remove on the determination of his tenancy?

6. What is meant by the term copyright, and what is now the duration of an author's property in his work?

7. A enters into a contract with F and G, who are partners in trade, to conduct the partnership business at a salary of twenty per cent. upon the net profits. Does such contract make A a partner?

8. What is requisite to constitute the injury of false imprisonment?

9. What is a conspiracy? Is it necessary that the act contemplated should have been accomplished, to constitute the offence?

10. To what extent is a person who receives stolen goods responsible?

11. What is meant by maintenance and champerty?

12. What is meant by the plea of benefit of clergy, and when was it abolished?

28th September, 1857.—*Morning.*

CIVIL LAW.—*Examiner, D. Caulfeild Heron*, LL.D.

1. Paulus says, "*Juris ignorantia cuique nocet, facti vero ignorantia non nocet,*" (Pand. Lib. xxii., Tit. vi. De Juris et Facti ignorantiâ, L. 9). That general rule is limited by two celebrated laws of Papinian. What is the corresponding rule in the law of England?

2. Explain the terms, *solutio, imputatio, acceptilatio, novatio, delegatio, confusio.*

3. Define and distinguish, *dolus, fraus*, and *injuria.*

4. Define and distinguish, *delictum*, and *quasi delictum.*

5. Illustrate from the Civil Law the different methods of Common Law and Equity pleading in England and Ireland before the recent legal reforms. State the names of the several written pleadings, from the commencement to the end of an action at law, and of a suit in Equity, with the corresponding terms in the Civil Law.

6. Enumerate the different forms of personal actions at law in the Common Law courts. State the corresponding terms in the Civil Law.

7. Explain the terms, *pactum antichresios*, and *pactum commissorium.*

8. "Leniter in spem
Arrepe officiosus ut et scribare secundus
Hæres, et si quis casus puerum egerit orco
In vacuum venias."—HORACE: Sat. ii., v. 45.
Explain, in technical terms, the legal forms to which allusion is made in the above quotation.

9. Sketch, briefly, the history of the Roman law, from the XII. Tables to Justinian.

10. Sketch the history of the cultivation of the Civil Law in Europe, from the twelfth to the eighteenth century. Enumerate the civilians of the principal schools.

24th September, 1857.—*Morning.*

PLEADING, PRACTICE, AND EVIDENCE.

Examiner, Mr. Drury.

1. Previous to the Common Law Procedure Act, how were proceedings commenced and carried on at law?

2. What is the mode of commencing proceedings at law at the present time?

3. Can a party plead and demur at the same time to his opponents' pleading; and what course must he adopt to enable him so to do?

4. What was formerly meant by a plea of the general issue; and when was such plea abolished?

5. How is a record proved?

6. Are death-bed declarations admissible in evidence in civil proceedings?

7. Is a wife's evidence, in any case, admissible against her husband?

8. What is the difference to a plaintiff of being non-suited, and having a verdict found for the defendant?

9. Can a defendant, in any case, now plead more than one plea, without the leave of the court?

10. If a sole plaintiff at law dies, how are the proceedings to be continued?

11. What is meant by a plea of *nul tiel record*, and how is such plea tried?

12. In what actions can money be paid into Court in discharge of the plaintiff's demand?

28th September, 1857.—*Afternoon.*

CONSTITUTIONAL LAW.

Examiner, D. Caulfeild Heron, LL.D.

1. At what time was the English Parliament divided into two houses? State Mr. Hallam's opinion. When were knights of the shire, and when were burgesses first returned?

2. In the reign of Henry II., the essential checks upon the royal authority were five in number.

3. What is the earliest instance of parliamentary impeachment?

4. Give a short history of the Case of Ship-money.

5. Give an historical account of the origin of the Courts of Queen's Bench, Common Pleas, and Exchequer.

6. What was the origin of the *Cabinet?* Explain the phrases, *Cabinet Minister, Privy Councillor, Premier.* When were they first used?

7. What ministries in English History are known by the terms "*Cabal*," "*Coalition*," and "*All the Talents?*"

8. When did the system of "government by party" arise in England? When first were the names *Whig* and *Tory* applied to English parties? What is the derivation of each?

9. Explain the constitutional principles involved in the Revolution of 1688, and the manner in which the results of the Revolution were secured.

10. What limitations of Prerogative are contained in the Act of Settlement?

11. What is the earliest precedent for an inquiry by the House of Commons into the conduct of a public officer in military command?

12. Explain the customs of *Tanistry, Gavelkind, Coshery*, and *Bonaght* in Ireland, in the time of Henry II.

28th September, 1857.—*Afternoon.*

COLONIAL LAW.

Examiner, D. Caulfeild Heron, LL.D.

1. Sir George Cornewall Lewis defines a *dependency*, a *subordinate government*, and a *colony.*

2. Political powers may be delegated in two ways.

3. Lewis enumerates the principal classes of dependencies of European States in modern times. In what respects did they bear the analogy of the relation of the Roman provinces to Rome?

4. State the class of evils which arise to a dependency from its subjection to two governments.

5. Lewis enumerates the means of uniting popular securities in the dependency with its virtual dependence.

6. There are two modes by which a dependency may lose its distinctive character.

7. Classify the several heads under which the law is administered in the Supreme Courts of the three Presidencies of British India?

8. The jurisdiction of the Supreme Courts of Judicature in British India extends over several distinct classes of persons in certain cases. State these, and mention the several jurisdictions with which these courts are invested.

9. Mention the sources of the law as now administered in British India, in reference to criminal justice, evidence, inheritance, and contract.

10. What are the Sudder Dewanee Adawlut Courts?

11. There are two schools of Hindoo Law.

12. What is the ultimate appellate jurisdiction for British colonies?

28th September, 1857.—*Afternoon.*

INTERNATIONAL LAW.

Examiner, D. Caulfeild Heron, LL.D.

1. What is the meaning of the phrase "balance of power in Europe?" On what occasions is forcible intervention for its maintenance legitimate?

2. Give a short account, with dates, of the principal treatises relating to the balance of power.

3. Wheaton divides the history of the modern law of nations into periods.

4. In the late Anglo-French war against Russia, England and France recognised the principle that free ships make free goods, excepting articles contraband of war.
   (*a*) To what extent is this a new arrangement on the part of England and France?
   (*b*) What are articles "contraband of war?"
   (*c*) What is the origin and derivation of the term *contraband?*
   (*d*) What effect had this arrangement on the right of search objected to by the United States?

5. State briefly the rules recognised in cases where the *lex loci*, and *lex domicilii* conflict—
   (*a*) As to real property.
   (*b*) As to personal property.
   (*c*) As to the state and capacity of persons.
   (*d*) As to contracts.

6. Give a brief sketch of the history of International Law, with the dates and works of the principal writers.

EXAMINATION FOR THE DIPLOMA IN ELEMENTARY LAW.

Examination for the Diploma in Elementary Law.

23rd September, 1857.—*Morning.*

LAW OF PROPERTY AND PRINCIPLES OF CONVEYANCING.—*Examiner, Mr. Drury.*

1. Define an estate in tail general and an estate in tail male special.
2. Point out the difference between an estate tail and a conditional fee at common law.
3. What is the meaning of the expression "Seized *per my et per tout?*"
4. Lands are limited to A for life, remainder to the heirs of C and D. During the life of A both C and D die, but at different periods. How do the respective heirs of C and D hold, whether as joint tenants or tenants in common, and why?
5. What is meant by the term escheat, and from whence is the word derived?
6. A holds lands on lease for his life; B holds lands on lease for ninety-nine years, if he should so long live. Are the estates of A and B in their respective holdings commensurate; and if not, what is the difference of their interests?
7. Explain the difference between a remainder and a reversion; between a vested and a contingent remainder; and between a springing and a shifting use.
8. Is there any person in whom, by the law of England, property will vest, whether he will or not?
9. A dies leaving a grand-daughter—the only child of his eldest son—and a younger son. Who is the heir at law of A?
10. What is meant by the term "Protector of the Settlement;" and in what different ways may a Protector be created?
11. Explain the nature and effect of a common recovery.
12. Real estate is granted to A simply, without words of limitation: by the same instrument, personal property is given to A in the same manner. What interest does A take in these two classes of property?
13. Lands are given by will to A and his heirs male; what estate does A take? What is the effect of the same words in a conveyance *inter vivos?*
14. A testator acquires property subsequently to the date of his will, and dies on the 1st January, 1850. Does such after-acquired property pass under the testator's will? Did the same rule of law always obtain?
15. Are the same formalities required for the due execution of a will disposing of mere personal estate as of real estate? Was the rule of law on this subject always the same as it is at present?

23rd September, 1857.—*Morning.*

JURISPRUDENCE.

Examiner, D. Caulfeild Heron, LL.D.

1. Define Jurisprudence.
2. Define Common Law, Statute Law, Equity, the Civil Law, the Criminal Law.
3. Define jus gentium, jus naturale, jus commune.
4. Define Procedure.
5. State the different courts by which justice is administered—
   (*a*) In England.
   (*b*) In Ireland.
   (*c*) In Scotland.
6. What is Mr. Reddie's first division of law?
7. How does Blackstone define *Municipal Law?*
8. What is the origin of the word *international?*
9. What is the proper province of coercive or positive law?
10. In what does the excellence of a law consist?
11. Upon what foundation does the authority of custom rest?
12. There are two great objects to be ascertained in the internal private law of states.
13. The separate cultivation of commercial and maritime law has been stated to be expedient.
14. What was the methodical arrangement of the component parts of private law by Gaius?
15. The arrangement in the institutes of Justinian has been followed in modern times.
16. Domat has divided the whole of private law into two great parts.

23rd September, 1857.—*Afternoon.*

EQUITY.—*Examiner, Mr. Drury.*

1. How does a Court of Equity enforce the performance of its decree?
2. What is meant by an injunction?
3. Give some examples of cases in which a Court of Equity will issue an injunction?
4. In what cases will an interpleader suit lie in Equity?
5. What is meant by an issue of *devisavit vel non?*
6. Explain the meaning of the maxim *Equitas agit in personam?*
7. What is meant by the ademption of a legacy, and wherein does ademption differ from the satisfaction of a legacy?
8. When is a legacy said to be lapsed?
9. What words are sufficient to create separate property in a married woman?
10. Can the separate estate of a married woman be made liable for a husband's debts?
11. What is meant by the wife's paraphernalia, and from whence is the word derived?
12. What is the difference between paraphernalia and pin money?
13. A trustee purchases property in his own name with the trust funds; can the *cestuis que trust* claim to be entitled to the property so purchased?

23rd September, 1857.—*Afternoon.*

COMMON LAW AND CRIMINAL LAW.

Examiner, Mr. Drury.

1. What is the difference between property in possession and property in action?
2. Explain the nature of a bond, and the rights and liabilities which exist between the parties thereto.
3. How must a bill of exchange be made payable, in order to make it negotiable?
4. Has the indorser of a bill of exchange, who has been proceeded against and compelled to pay by the holder, any and what remedy against any other party?
5. What is the effect of a special acceptance of a bill of exchange?
6. What is meant by a debt of record, and give an example?
7. Define a charter party.

APPENDIX II.

Examination for the Diploma in Elementary Law.

8. Can a surety compel his principal to pay off the debt when it becomes due, and if so, by what means?

9. What are the provisions of the Statute of Frauds as to guarantees?

10. What circumstances will excuse the performance of a contract at law?

11. What constitutes a sale?

12. In what cases are sales binding; and when are they not binding?

13. What is the distinction between justifiable homicide, excusable homicide, and felonious homicide?

14. Explain what is meant by an accessory after the fact, and give an example.

15. What constitutes the crime of burglary, and what is it necessary to prove in order to convict an accused person of that offence?

16. What is the offence of Præmunire, and why is it so called?

17. What is the difference between a felony and a misdemeanor?

18. What effect has a conviction for perjury on the status of the person convicted of that crime?

23rd September, 1857.—Afternoon.

CIVIL LAW.

Examiner, D. Caulfeild Heron, LL.D.

1. What were the Hortensian, Valerian, Licinian, and Canuleian laws?

2. Explain the terms *actiones legis, jus honorarium, jus rerum.*

3. Define *Bailment.* State the definitions which Lord Chief Justice Holt borrowed from the Civil Law, in Coggs *v.* Bernard.

4. What was the *corpus juris civilis?*

5. The jurisdiction of the Prætor was divided into three portions.

6. What was the *specificatio?*

7. Give an example of a *quasi contractum.*

8. Give an example of a *quasi delictum.*

9. What was the origin of *codicils?*

10. State the principal elements in the Law of England borrowed from the Civil Law.

Examination for Honors—Elementary Law.

EXAMINATION FOR HONORS—ELEMENTARY LAW.

September, 1857.

LAW OF PROPERTY AND PRINCIPLES OF CONVEYANCING.—*Examiner, Mr. Drury.*

1. Freehold lease to A and his heirs. A devises his interest therein to B. B dies, one of the *cestuis que vie* in the lease being still alive; to whom does the interest under the lease belong?

2. A purchases lands in fee-simple, and dies intestate and without issue, leaving a grandfather and an uncle, *ex parte paternâ,* him surviving; to whom will the lands descend?

3. Devise to the right heir of A B; what estate does such heir take? Suppose the gift to take effect after the 31st of December, 1853, and that such heir afterwards dies intestate, to whom will the lands descend?

4. How many kinds of powers are there? Point out their distinguishing characteristics.

5. What is the distinction between a devise of lands to executors to sell, and a devise that the executors shall sell?

6. A testator directed his real and personal estate to be sold, and the produce divided amongst his sisters. Can the executors convey a good title to the real estate, without the concurrence of the persons beneficially interested?

7. An executor contracts for the sale of a chattel real specifically bequeathed by his testator. The purchaser receives notice that the debts affecting the testator's estate are all paid. Can the purchaser safely pay the purchase-money to the executor?

8. A lease of lives renewable is settled upon A for life, with remainder to B, quasi in tail, with remainders over. B, in the life-time of A, and without his concurrence, executes a conveyance for valuable consideration; what effect has such conveyance upon the subsequent remainders?

9. A trader executes a bill of sale of all his estate and effects to a particular creditor. Have the general creditors any, and what remedy against the particular creditor; and what course would you advise them to pursue to enforce same?

10. A testator devises Blackacre to the first son of A who shall attain the age of twenty-one years; and Whiteacre to the first son of B who shall attain the age of twenty-four years; are these gifts, or either of them, valid?

11. A *feme covert* dies, possessed of a chattel real, leaving her husband surviving; to whom does such chattel belong at her decease?

12. A, B, and C are joint tenants; C sells his undivided third to K; how do A, B, and K hold in relation to each other?

September, 1857.

JURISPRUDENCE.

Examiner, D. Caulfeild Heron, LL.D.

1. Define circumstantial evidence. In your opinion, state the principal circumstances which led to the verdicts of the juries in the cases of William Palmer, Madeleine Smith, and James Spollen, respectively.

2. What are the leading characteristics of the reform in the law effected by the Act for the Abolition of Fines and Recoveries? Can you suggest any extension of the principles involved in that Act?

3. What are the characteristics of the changes introduced by the Statute with respect to Wills passed in 1838?

4. State the principal changes which the law has undergone with respect to the alienation of entailed estates from Henry III. to William IV.

5. State the principal arguments for and against the policy of the English law respecting the unanimity of jurors.

6. Into what did Puffendorf, Cocceii, Heineccius, and Domat, resolve the Law of Nature?

7. What was held to be the first principle of Natural Law—

(*a*) by Hobbes and Spinoza;
(*b*) by Chancellor D'Aguesseau, Thomasius, and Pestel?

8. There are three principal errors in the investigations of modern jurists.

9. All the virtues which are incapable of being enforced by the public authority may be reduced into three classes.

10. General utility is not, as a principle, peculiar to jurisprudence.

11. What is the duty of a Court of Law?

12. Leibnitz censures the division of private law into persons, things, and actions.

13. Leibnitz enumerates five *universi juris summa capita.*

14. What is the best method of improving the Common Law; and what are the best means to diminish the accumulation of the works of individuals and the judgments of the courts?

15. Give an historical account of the origin and jurisdiction of the Courts of Chancery, Queen's Bench, Common Pleas, and Exchequer. When was the system of Circuits introduced?

16. What are the principal distinctions between a trial at Nisi Prius in the reigns of George II. and Queen Victoria, respectively, as to the law of evidence?

17. Explain the following phrases:—*Cabinet, privy councillor, the ministry, premier, cabinet minister.*

18. What are the rules for measuring the depravity of disposition indicated by an offence?

September, 1857.

EQUITY.—*Examiner, Mr. Drury.*

1. In the case of a breach of contract, how does the remedy afforded by a Court of Equity differ from that afforded by a Court of Law?

2. In the construction of wills and deeds, what is the rule when there are two clauses absolutely inconsistent with each other? Which is to be preferred?

3. In what cases is land considered and treated in Equity as money?

4. Give an example of a trust created *in invitum.*

5. What is the order of administration of the different classes of property of a deceased person?

6. What is the fund primarily applicable to the payment of the debts of a deceased person? Can such fund be exonerated from such payment; and if so, by what means?

7. What is meant by the doctrine of election in Equity? Give an illustration.

8. A at his death leaves debts due by mortgage, by judgment, by bond, and by simple contract; in what order will A's assets be administered in Equity?

9. To whom does the undisposed of residue of a testator's personal estate belong? Did the rule of law on this subject, which now obtains, always prevail?

10. What is an executory devise? Give an illustration.

11. Explain and illustrate the maxim *Equitas sequitur legem*, and point out the difference in the extent of its application in the cases of trusts executed, and trusts executory.

12. A mortgages Greenacre and Blackacre to B for distinct sums, and C becomes surety for one only. Has B a right to retain all his securities until he is repaid both debts; or will C, on payment to B of the debt for which he became surety, have a right to the benefit of the particular security?

September, 1857.

COMMON LAW AND CRIMINAL LAW.

Examiner, Mr. Drury.

1. To what extent can a feme covert bind her husband or herself by contract?

2. Does the husband take any and what interest in the chattels personal of the wife, belonging to her at the time of the marriage or accruing to her during coverture; to whom do such chattels personal belong on the determination of the coverture?

3. A and B, partners, have a joint legal interest in a chose in action; A dies. To whom does the right of action at Common Law accrue?

4. What is a bill of lading; state its form and effect?

5. A is indebted to B, and being in insolvent circumstances, gives his promissory note to B, as an inducement to him to sign a general composition deed. Can B subsequently maintain any action upon such promissory note?

6. A enters into a verbal agreement in the year 1853 to become a subscriber to an undertaking which is not to be brought to a close until the year 1856. Can any action be maintained against A upon such agreement?

7. A and B enter into a joint contract with C. It subsequently appears that A is an infant. Has C any remedy, and what course ought he to pursue to enforce same?

8. What is the general rule of law as to the responsibility of innkeepers for the safety of the goods of their guests; and state any exceptions to such general rule which exist?

9. A sheriff sells goods under a *fi. fa.*, and pays over the proceeds to the plaintiff in the execution, in ignorance of an act of bankruptcy, which had been committed by the defendant in the action. The sheriff is afterwards compelled to pay the amount levied by the execution to the assignee. Has the sheriff any remedy against the plaintiff in the execution, and if so, upon what principle?

10. What is the nature of the acknowledgment which will be sufficient to take a debt out of the operation of the Statute of Limitations, and in what form must such acknowledgment be given?

11. Is the following sufficient—"Send me in any bill or demand you have to make on me, and if just I shall not give you the trouble of going to law."

12. What is the nature of the offence of compounding a felony, and how is it punishable?

13. What is meant by the offence of common barratry?

14. Could perjury be committed at Common Law by taking a voluntary oath?

15. What evidence is required to establish a charge for perjury?

16. Upon the trial of a person for a misdemeanor, the facts given in evidence amount in law to a felony: is the accused party entitled to an acquittal?

September, 1857.

CIVIL LAW.—*Examiner, D. Caulfeild Heron*, LL.D.

1. Three things are required by the Roman law for prescription. Is there any difference in the law of England as to prescription?

2. Explain the phrases, *possessio pro suo*, and *possessio pro possessore.*

3. Explain and apply the maxim, *melius est non habere titulum quam habere vitiosum.*

4. There are three essential characteristics of a *donatio mortis causâ.*

5. Mention the different kinds of wills recognised by the Roman law.

6. Explain the phrases, *querela inofficiosi, collatio bonorum.*

7. *Impossibilis institutio (in testamentis) pro non scriptâ habetur* (Inst. Lib. ii., Tit. xiv. De Hæred, Instituendis). What is the corresponding rule in the law of England?

8. Weisembech neatly expresses Justinian's classification of law.

EXAMINATION FOR THE DEGREE OF M.D.

Examination for the Degree of M.D.

15th September, 1857.—*Morning.*

MEDICINE.

Examiner, John C. Ferguson, A.M., M.B.

1. What are the local complications met with in our typhus fevers; and what the stimulants most used in their treatment?

2. Describe the pathology of cerebral hæmorrhage through its different stages, and the principles of treatment applicable to each.

3. State the points of difference between the products of inflammation in mucous and serous membranes.

4. Enumerate all the causes of enlargement of the thoracic parietes, and the physical signs which attend and indicate each.

5. Under what circumstances is albumen found in the urine; and what importance should be attached to it in forming prognosis?

6. Describe the different stages in the development of tubercle in the lung, and the means of determining the presence of each.

APPENDIX II.

Examination for the Degree of M.D.

7. What is the differential diagnosis of scarlatina and rubeola, founded on the complications and eruption in each?

8. What are the leading indications and contra-indications to the use of mercury?

15th September, 1857.—*Afternoon.*

SURGERY.

Examiner, Maurice Henry Collis, M.B., F.R.C.S.I.

A.

1. Point out the differences, local and constitutional, between *anthrax* and *furuncle*.

2. Mention the various ways of treating anthrax, with the authorities for each, and the cases to which each is specially adapted.

3. What condition of urine has been said to be associated with anthrax; and by whom?

4. Under what circumstances is anthrax generally fatal?

B.

1. Enumerate the causes that give rise to periostitis.

2. How do the constitutional symptoms vary in the acute and chronic forms of the disease?

3. What bones, and what parts of bones, are most affected in rheumatic periostitis?

4. How would you treat simple acute periostitis, rheumatic periostitis, and syphilitic periostitis?

C.

1. Enumerate the causes that will produce retention of urine.

2. Specify, in their order, the various remedies you would adopt in retention from spasm.

3. What dangers are to be feared when there is retention, with lacerated urethra? and—

4. How are these dangers to be met?

19th September, 1857.—*Afternoon.*

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.—*Examiner, Dr. Harvey.*

1. Describe the menstrual discharge, noticing specially its nature, composition, and changes of character. State the points of resemblance, and of difference between it and the lochia. Define the extent of surface from which it is derived. How do you explain the occurrence of menstruation during pregnancy?

2. Describe the situation of the female urethra, and its relations to the neighbouring structures. How is the catheter best introduced; and how is the operation modified by conditions occurring during labour, and in retroversio uteri?

3. What is a Graafian vesicle? Of what structures does it consist? Enumerate its contents, and state how they differ in their relations to it, and to each other, in the immature, and in the mature state of the vesicle.

4. Give an outline of the process by which the embryo comes to establish a connexion with the system of the mother; and mention those structures not found in the earlier states of the ovum, which are the result of that process.

5. At what period of gestation does abortion most frequently occur? How do you explain the circumstance? What precautions should be taken to guard against the occurrence at this time?

6. You are called to a lady, the subject of abortion, about the end of the fourth month of gestation. The fœtus has been expelled; the cord is broken; and the placenta and membranes remain in utero. No hæmorrhage, or other bad symptom at present. What would be your treatment under such circumstances; and, if it should not be successful, what would be your ulterior course?

7. What circumstances, during the labour or otherwise, would lead you to suspect the existence of twins? Detail the most important steps in the management of a labour with two children.

8. What is the rate of mortality of the child in footling cases; and how does the danger arise? Mention the various precautionary steps in the management of such a presentation best calculated to preserve the life of the child. If one foot only were presenting, would you bring down the other or not; and give the reasons for your choice?

9. A lady, who is anxious to nurse her child, has engaged you to attend her in her first confinement. State how you would manage the breasts from the first, so as to secure a healthy and comfortable lactation.

10. Give the symptoms, pathology, and treatment of phlegmasia dolens.

11. State your views as to the mode in which ergot, given to the mother during labour, may cause the death of her child; and give your reasons.

12. Describe the progress of marasmus, its morbid anatomy, prognosis, and treatment.

16th September, 1857.—*Afternoon.*

MEDICAL JURISPRUDENCE.

Examiner, Dr. Geoghegan, Prof. R.C.S.I.

1. Enumerate the symptoms which precede death by cold, and the usual *post-mortem* appearances; also state the conditions which favour and which retard the influence of that agent in causing death.

2. What are the chief indirect causes of death in cases of wounding, and at what respective periods do they in general come into operation?

3. State the means, medical or otherwise, by which criminal abortion is ordinarily attempted, and their several modes of action.

4. Within what respective intervals after ingestion, do poisonous doses of Arsenious, Sulphuric, and Prussic Acids, Corrosive Sublimate, and Tincture of Opium, usually begin to manifest their general effects?

5. Describe the external conditions which have been observed in death by hanging, and state the combination of them most frequently noticed in practice.

6. How would you proceed to determine the existence of Copper in the tissues, and what exception might be taken against its presence, as an indication of copper-poisoning?

7. Describe the effects of exposure to the fumes of charcoal, and the treatment to be adopted in such an emergency.

8. What are the signs of recent delivery at the full period?

16th September, 1857.—*Afternoon.*

MATERIA MEDICA AND PHARMACY.

Examiner, Dr. Geoghegan, Prof. R.C.S.I.

1. Define the term cathartic, and state the ordinary classification of cathartic medicines, explaining the action of each class, and giving examples.

2. Enumerate the officinal *drastic* purgatives and their respective doses; name the plants which furnish them, the part of the plant from which each is obtained, and their several active principles.

3. Describe the sensible and chief chemical characters of tartar-emetic, and write its composition in symbols.

4. How are potassa caustica, lunar caustic, and chloride of zinc respectively prepared, and what is the modus operandi of each as an escharotic?

5. Contrast the composition, physical and chemical properties, and doses of calomel and corrosive sublimate, and name two analogous pharmaceutic compounds of mercury.

6. Name the preparations of opium and of morphia contained in the Dublin Pharmacopeia, and specify the quantity of the active ingredient in each.

7. What are the ordinary adulterations of sulphate of Quina, Scammony, Iodine, Opium, and Iodide of Potassium?

8. In what respective states of combination does the

iron exist in the mistura ferri aromatica, mistura ferri composita, and the ferri acetatis tinctura.

9. Explain, briefly, the mode of preparing muriatic acid; describe its properties and its uses in pharmacy and surgery, and state the composition of the dilute acid of the Dublin Pharmacopeia.

10. Name the drugs (1 to 10) placed before you, and state the chief physiological action of each.

Prescriptions.

Prescribe, in unabbreviated Latin, 1°, and 8-oz. mixture, containing Squill, Digitalis, Juniper, and Acetate of Potass, with full directions for use.

2° Antispasmodic pills, directing them to be silvered, and two to be taken at bed-time four times a-week.

Translate the following:—Recipe—Radicis Gentianæ concisæ sesquidrachmam, aquæ destillatæ ferventis octarium, digere per horæ quadrantem in vase operculato et cola, deinde adde tincturæ ejusdem, sescunciam. Sumatur semuncia quotidie ante jentaculum.

17*th September*, 1857.—*Morning.*

Anatomy.

Examiner, Robert Harrison, M.D.

1. Contrast a cervical, a dorsal, and a lumbar vertebra.

2. Describe the axis, or the second cervical vertabra.

3. Mention the boundaries of the spinal canal, and its form and size in the cervical, dorsal, lumbar, and sacral regions.

4. Mention the normal curvatures of the spinal column.

5. In what part of the spinal column is a lateral curvature usually observed; how has this curve been accounted for? When excessive, state the appearances; also the deviations from the natural form, in other parts of the body, caused thereby.

6. The muscles, and all other accessory parts, having been removed, from the spine of a fully developed fœtus, and from that of an adult, contrast the two columns, and state accurately the differences between them, both in the general form and in the structure of the different segments.

7. Describe the form and aspect of the articular condyles of the inferior maxillary bone.

8. Describe the attachments, relations, and actions of the internal and external pterygoid muscles.

9. State the attachments of the buccinator muscle, and the nerves which endow it with motor power.

10. Describe the upper extremity of the femer; the head, neck, and trochanters.

11. Describe the psoas magnus muscle, its attachments, its several relations, and its actions.

12. Describe the situation and relations of the pancreas, and the best mode of exposing it, *in situ.*

13. Describe the excretory duct of the pancreas, and the mode in which it opens into the duodenum.

14. Suppose the pancreas carefully removed, mention the several objects that come into view, and their relative positions.

15. Describe the course and relations of the subclavian artery in its third stage.

16. Mention the channels and the anastomoses whereby the circulation of the blood in the right arm can be maintained, after the obliteration of the inominata or brachio-cephalic artery.

17. Describe the course and distribution of the motor portion of the fifth pair of nerves.

18. Enumerate the several connexions of the portio dura to other nerves in the cranial portion of its course.

19. What nerves supply the muscles of the soft palate and the uvula?

17*th September*, 1857.—*Afternoon.*

Physiology and Comparative Anatomy.

Examiner, Robert Harrison, M.D.

1. Describe the process of ossification in a vertebra; that is, enumerate the principal ossific points, and the epiphyses in each; the time and order of their appearance, and the periods of their completion.

2. Describe and contrast the form, position, and development of those processes of the vertebræ, named "diapophyses" and "parapophyses," in the cervical, dorsal, and lumbar vertebræ.

3. Enumerate and describe the vertebral segments of the cranium, as arranged and named by Owen.

4. In what bones does the process of ossification first commence?

5. Describe the process of ossification in the femur, the number of epiphyses, the time and order in which they appear, and in which they are completed.

6. State the supposed uses of the pancreatic secretion, especially that ascribed to it by C. Bernard.

7. The "pyloric appendages" in fish are considered as the analogue of the pancreas; why?

8. Mention the muscles which the portio dura supplies; also those which it does not supply.

9. In some cases of paralysis of the portio dura the four senses—sight, smell, hearing, and taste, are more or less impaired, also the process of deglutition; state the several anatomical communications of this nerve which may, in some measure, explain these effects. In such cases, is the uvula ever affected, and how?

18*th September*, 1857.—*Afternoon.*

Natural Philosophy.

Examiner, John Stevelly, LL.D.

1. A farmer requires to carry a load of 140 lbs., on a pole 12 feet long, but he wishes to load his son, who carries the other end of the pole, with only 40 lbs., of the entire weight; where must he place it on the pole?

2. Two weights, one of 112 lbs., the other of 80 lbs., are suspended from the extremities of a uniform rod, 7 feet asunder; the rod itself weighs 32 lbs.:

a. What point of the rod must be supported, in order that it may rest in any position in which it is placed?

b. What is the pressure sustained by the support?

3. A wheel of 5 feet in diameter is acted on by a force of 20 lbs. at its circumference; what load will this sustain on a compound axle, the diameter of one part of which is 16 inches, and that of the other part, 14 inches?

4. A falling pulley has two sheaves in its block, to which one end of the rope which reeves it is attached; what weight, attached to the block, would a power of 168 lbs. drawing the other end of the rope, sustain in equilibrio?

5. Two impulsive forces, one of which, if it acted alone, would impart to a certain body a velocity of 12 feet per second; the other, if it alone acted on the same body, would impart a velocity of 16 feet per second; if they act together on the body, in directions which contain a right angle, what velocity will the body begin to move with, and how is the direction of the motion determined?

6. How many decimal parts of an inch must I alter the length of a pendulum that loses two seconds in the twenty-four hours, to make it go right? (The correct length of the pendulum which swings seconds, is, suppose, 39·1393 inches.)

7. The specific gravity of wrought iron is 7·78. A ploughshare let gently into a vessel of water, carefully filled up to an overflow pipe, is found to displace 114·5 cubic inches of the water; what is the weight of the ploughshare?

8. Explain the use of the parabolic reflector in a lighthouse.

9. Explain how the right ascension of a heavenly body is observed, and the rule by which the hours, minutes, and seconds, shown by the clock, are converted into degrees, minutes, and seconds.

10. In a certain hygrometric state of the air, 100 cubic inches are found to weigh 30·5 grains. Explain how the number expressing the specific gravity of air in that state is obtained; distilled water at 60°, and standard pressure being taken as unity.

APPENDIX II.

Examination for the Degree of M.D.

11. Explain how the height of a homogeneous atmosphere of the same constitution as in the preceding question may be calculated, the height of the barometer being supposed 30 inches, and the density of mercury 13·6 to distilled water, 1.

12 Explain the great accumulation of electricity obtained by charging a Leyden jar.

13. State, clearly, the difference of action, of one permanent magnet, when brought into the neighbourhood of another; and of the same magnet when brought near a bar of soft iron; and explain the difference.

14. A flask of water, when boiling freely, is corked up, and all ebullition immediately ceases. It is then plunged into cold water, when violent ebullition again commences. Explain these facts.

18*th September*, 1857.—*Morning.*

CHEMISTRY.

Examiner, Thomas H. Rowney, PH.D.

1. Describe the preparation and properties of carbonate of magnesia.
2. Give the laws of combining proportions.
3. Describe the continuous process for obtaining ether.
4. Give the method of obtaining the hydrated peroxide of iron.
5. Describe the preparation and properties of calomel.
6. Give the properties and principal sources of carbonic acid.
7. Describe the preparation, properties, and uses of sulphurous acid.
8. How is ammonia obtained, and what are its properties?
9. Give the composition in symbols and systematic designation of calomel, corrosive sublimate, sugar of lead, and Epsom salts.
10. Give the process for preparing valerianic acid.
11. What is meant by a homologous series of compounds?
12. How may uric acid be detected in urine?
13. Give the tests for phosphoric acid, hydrochloric acid, potash, lead, and arsenic.
14. What is the difference between a fat and a fatty acid; and how is the latter extracted from the former?
15. How is the protoxide of nitrogen prepared, and what are its properties?

19*th September*, 1857.—*Morning.*

BOTANY.

Examiner, Professor W. Smith, F.L.S.

1. Name the principal plant-tissues in the order of their generality or importance, ascribe to each their peculiar functions, and give examples of special modifications.
2. Describe the peculiar functions of plant-life to which the direct action of light is essential.
3. Distinguish Cryptogamous from Phanerogamous plants by positive as well as negative characters; mention the principal classes and sub-classes of the former, with their diagnostic characters.
4. Give the botanical names of the plants yielding Castor oil, Colycinth, Scammony, Colchicum, and Iceland moss; and refer each to its natural order.

ZOOLOGY.

1. Group the classes of the animal kingdom according to the typical modes in which they exhibit the respiratory process.
2. Distribute the class Pisces according to the arrangement of Agassiz; mention the diagnostic characters of each division; and give illustrative examples from the British Fauna.
3. Give the characters of the class Cephalopoda, and the names and characters of the orders into which it may be divided.
4. Describe the peculiarities of structure and function by which the Cetacea are distinguished from true fishes, and in which they correspond with the other Mammalia.

16*th September*, 1857.—*Morning.*

MODERN LANGUAGES.

Examiner, Professor De Vericour.

FRENCH.

Translate into English:—

J'ai dit tout à l'heure que dans cette merveilleuse construction de l'édifice humain, la nature semblait parfois avoir manqué de temps pour achever certaines parties; il peut se faire en effet que les deux moitiés du corps ne se soient pas réunies complétement dans le sein de la mère, et que la division médiane persiste en quelques points, par exemple à l'égard de la lèvre supérieure, et alors il en résulte ce qu'on nomme un *bec-de-lièvre;* il peut se faire aussi que cette même division se montre plus en arrière, et qu'elle partage en deux moitiés cette membrane délicate et mobile tendue au fond de la bouche, qu'on nomme le *voile du palais.* De là un timbre particulier de la voix et un vice remarquable de prononciation.

Cette difformité n'est point rare: de tout temps on l'avait observée, et bien souvent sans doute l'idée avait dû venir aux chirurgiens de chercher à y remédier par un procédé semblable à celui qu'on emploie pour le bec-de-lièvre, c'est-à-dire en pratiquant quelques points de suture. Mais comment aller placer des aiguilles et des fils sur les bords fraîchement avivés d'une membrane si mince et si mobile? et comment les maintenir en place pendant plusieurs jours? à M. Roux etait réservé l'honneur de surmonter toutes ces difficultés, et son coup d'essai fut un coup de maître.—*Dubois.*

GERMAN.

Translate into English:—

Die Anlage zur Schwindſucht, eine der traurigſten, wird daran erkannt, wenn man den eben beſchriebenen Bau der Bruſt und des Körpers hat, ferner, wenn man noch nicht 30 Jahr alt iſt (denn nachher entſteht ſie bei weitem nicht ſo leicht), wenn die Eltern ſchwindſüchtig waren; wenn man oft plötzliche Heiſerkeit, ohne, katarrhaliſche Urſache, bekommt, ſo daß oft beim Sprechen die Stimme vergeht; wenn man beim Sprechen, Laufen, Berg- und Treppenſteigen ſehr leicht außer Athem kommt; wenn man nicht recht tief einathmen und die Luft an ſich halten kann, ohne einen Schmerz in der Bruſt oder einen Reiz zum Huſten zu verſpüren; wenn man ſehr rothe, gleichſam mit Farbe bemalte Wangen hat, oder oft plötzlich eine ſolche hohe Nöthe, zuweilen nur auf einer Wange, bekommt; wenn man nach dem Eſſen rothe und heiße Backen und heiße Hände bekommt; wenn man oft plötzlich fliegende Stiche in der Bruſt empfindet; wenn man früh Morgens kleine Klümpchen, wie Hirſekörner oder kleine Graupen, aushuſtet, welche wie Käſe oder Talg ausſehen, und beim Zerdrücken einen üblen Geruch von ſich geben; wenn man bei jedem Schrecken, Zorn oder andern Affect Schmerzen in der Bruſt oder Huſten bekommt; wenn jede Erhitzung oder Erkältung, jeder Diätfehler dergleichen erregt; wenn man häufig Bruſtkatarrhe bekommt, oder dieſelben, wenn ſie einmal entſtanden ſind, gar nicht wieder aufhören wollen. Bemerkt man nun gar noch blutigen Auswurf aus der Lunge, dann iſt die Gefahr der Lungenſucht ſchon ſehr nahe.

Hufeland.

ITALIAN.

Translate into English:—

E il sangue del naso era manifesto segno d'inevitabile morte: ma nascevano nel cominciamento d' essa a' maschi, ed alle femmine parimente o nell' anguinaia, o sotto le ditella certe enfiature, delle quali alcune crescevano come una comunal mela, altre come uno uovo, ed

alcune più, ed alcun' altre meno, le quali i volgari nominavan gavoccioli. E dalle due parti del corpo predette infra breve spazio cominciò il già detto gavocciolo mortifero indifferentemente in ogni parte di quello a nascere, ed a venire: e da questo appresso s' incominciò la qualità della predetta infermità a permutare in macchie nere, o livide, le quali nelle braccia, e per le cosce, ed in ciascun' altra parte del corpo apparivano a' molti, a cui grandi, e rade, ed a cui minute e spesse. E come il gavocciolo primieramente era stato, ed ancora era certissimo indizio di futura morte, cosi erano queste a ciascuno, a cui venieno.—*Boccacio.*

Translate into French, or German, or Italian :—

Pneumonia, originating in the pulmonary capillaries, appears to be essentially a blood-disease, and sometimes comes on very suddenly, at other times more slowly; like all diseases of this type, it is often epidemic; it sometimes supervenes on other diseases, but often attacks persons who were previously in apparently good health. The great chemical alteration which the blood would appear to undergo, consists in the augmentation of the fibrine, but this augmentation taking place, amongst other modes, by the conversion into it of a more or less considerable quantity of the albumen: we thus have two distinct morbid actions taking place within the sanguiniferous system, one consisting in the removal of the great nutrient or formative power in the blood, and the other in the sudden engorgement of the capillaries with a great mass of (most probably) crude fibrine, which, partly from depressed vital action, and partly from mechanical over-distension, they are unable to transmit.—*Medical Review.*

EXAMINATION FOR HONORS—M. D.

Examination for Honors—M.D.

23rd September, 1857.—*Afternoon.*

MEDICINE.—*Examiner, John C. Ferguson*, AM., M.B.

1. Enumerate the different terminations of pleuritis and their effects upon the thoracic parietes.
2. What cause is usually productive of the greatest amount of combined hypertrophy and dilatation of the heart; and what are the signs of its existence?
3. With what diseases may peritonitis be confounded, and how is its presence to be determined?
4. Prescribe a full opiate for an adult in fever; and what are the indications for its exhibition?
5. Under what circumstances is phthisis supposed to be remediable; and what the latest means proposed to effect that object?
6. Enumerate the various sources whence air is found in the cavity of the pleura, and the physical signs which accompany each.
7. Describe, in the order of their occurrence, the changes of structure produced by inflammation of the brain's substance, and the symptoms indicative of each.
8. What do you believe to be the morbid condition of the nervous centres, and of the circulation in typhoid fevers; and what the consequent indications of treatment?

24th September, 1857.—*Afternoon.*

SURGERY.

Examiner, Maurice Henry Collis, M.B., F.R.C.S.I.

A. Sketch, carefully, the pathological changes in bone, from the first rise of inflammation to its termination in—

1. Caries;
2. Necrosis;
3. Hypertrophy.

B. What do you understand by the manipulatory mode of reducing dislocations, as proposed by Colombat, Reid, &c.; and what advantages has it over extension and counter-extension?

C. What are the proofs of the muscularity of the urethra?

By whom were its muscular fibres demonstrated?

How are they arranged, and from whence are they derived?

D. When, and by whom, were operations for cleft palate first performed; and what improvements have since been made by Dieffenbach, Fergusson, and Mason Warren?

E. What division of tumors does Mr. Paget make?

What are the external characteristics of rapidly growing (soft) cancer?

What is the least unfavourable form of cancerous tumor for removal? Give your reasons.

25th September, 1857.—*Afternoon.*

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.—*Examiner, Dr. Harvey.*

1. Give the anatomical and physical conditions observed in the generative organs of mammiferous animals during the time of heat or rut; and the points of agreement or difference between these and the phenomena accompanying menstruation in the human female.
2. Describe the various conditions as to extent, situation, structure, and general relations under which the ovary is found to exist in the different orders of vertebrated animals. Are the same component structures to be found throughout the series?
3. Contrast the well-formed female pelvis with the variety known as the "masculine pelvis;" and also with that in which development has been arrested. How would you expect labour to be modified by each of these conditions?
4. State the symptoms, early and late; progress, termination, and pathology, of uterine hydatids. What treatment may be required towards the end?
5. A young woman, hitherto healthy, has been suffering for some months from headache, with monthly aggravations. There is a distinct ovoid abdominal tumour occupying the hypogastrium, which has been gradually increasing, and the breasts are fuller than formerly. It is stated that she has never "been unwell," but pregnancy, notwithstanding, is suspected. How would you proceed to determine the question, and what view do you take of the case?
6. How does the allantois originate? To what class of membranes would you refer it? What purposes does it serve in birds, and what in the mammalia?
7. A woman has just been delivered, after a rather severe labour, which has left a well-marked "caput succedaneum" on the head of the child; and the secundines have been preserved uninjured. From these data, can you determine the position and progress of the child in the labour; and the situation of the placenta; and how?
8. Describe the most usual mode of aggression of puerperal mania. What is the prognosis, as compared with that of mania arising under other circumstances? What should be the general character of the bodily treatment in this disease?
9. What are the principal points of evidence that a woman has been delivered of a child; and that she has been *recently* delivered?
10. State, in outline, the circumstances under which ergot is indicated in uterine hæmorrhage; and those under which opium is required. Is there any general rule affecting the dose of opium borne in these cases?
11. In accordance with what general law affecting eruptive febrile diseases, does cow-pox protect the system from the attacks of small-pox? Are you aware of any series of experiments which prove that the law in

Appendix II. Examination for Honors—M.D.

question applies as strongly to this case as to that of eruptive diseases generally?

12. What is the pathology of puerperal convulsions, according to the latest investigations?

26th September, 1857.—*Afternoon.*

Medical Jurisprudence.

Examiner, Dr. Geoghegan, Prof., R.C.S.I.

1. Enumerate the causes of pseudo-morbid appearances in the dead body, and give an illustration of the action of each?

2. If appearances of latent disease of a serious kind should be discovered in the body of a person who had been the subject of violence shortly defore death, what inquiries would you institute in order to determine which of these causes had produced the fatal result?

3. Contrast the phenomena of Strychnia-poisoning in the human subject, with those of tetanus, and describe the ordinary and exceptional post-mortem appearances of the former, both external and internal.

4. Describe the static and hydrostatic tests, as applied to the investigation of cases of suspected child-murder, and state the principles on which they are founded.

5. In reference to charges of rape, describe the morbid conditions of the female genital organs (both in the child and adult), which are liable to be confounded with the results of violation; and state the circumstances on which you would found your diagnosis.

6. Describe the methods of Reinsch, Davy, and Marsh, for the detection of arsenic, and state the rationale of each.

7. What is meant by viability, and what is the earliest period at which, according to satisfactory evidence, a child has been born viable?

8. Describe the symptoms, and morbid appearances of an ordinary case of arsenical poisoning.

9. What physical conditions (external and internal) would lead you to infer, on examination after death, that a child had completed the full period of intra-uterine life?

10. What conditions of the Cranium, and its envelopes, in the newly-born child, have been confounded with the effects of violence, and how may they be distinguished from the latter?

11. Describe the various ways in which Alcohol may cause death, and state in what organs the poison has been discovered—through what channels it is eliminated, and, when decomposed in the blood, what alterations it is believed to undergo.

12. By what criteria would you seek to distinguish a case of feigned from one of real insanity?

26th September, 1857.—*Afternoon.*

Materia Medica, Pharmacy, and Medical Jurisprudence.

Examiner, Dr. Geoghegan, Prof., R.C.S.I.

1. How is Chloroform prepared? State its composition and chief properties, the density of its vapour, the tests of its purity, and the precautions to be observed in its administration.

2. Enumerate the causes of pseudo-morbid appearances in the dead body, and give an illustration of the action of each.

3. If appearances of latent disease of a serious kind should be discovered in the body of a person who had been the subject of violence shortly before death, what inquiries would you institute in order to determine which of these causes had produced the fatal result?

4. Describe, concisely, the process of levigation, elutriation, and percolation by displacement, and state the advantages and defects of the latter.

5. Enumerate the proximate principles peculiar to Opium (distinguishing the basic from the neutral), and those which are common to it and to other vegetable juices, and describe the physical and chemical properties of Morphia, and of Meconic acid.

6. What quantities of the carbonates and bi-carbonates of Potass and of Soda, and of the sesqui and bi-carbonate of ammonia, are severally necessary to saturate half an ounce of lemon juice (about 16 grains of citric acid)?

7. Describe and explain the process by which "Antimonii sulphuretum precipitatum" (D.P.) is obtained, and state how it differs from Kermes mineral and from "Antimonii sulphuretum preparatum."

8. What is the weight, avoirdupois, of 3 fluid oz. of rectified spirit, sp. gr. 0·840 (fluid oz. of dist. water= 437·5 grs.) and what the fluid measure of 2 oz. avoirdupois, of nitric acid, sp. gr. 1·500?

9. Contrast the phenomena of Strychnia-poisoning in the human subject, with those of traumatic tetanus, and describe the ordinary and exceptional post-mortem appearances of the former, both external and internal.

10. Describe the methods of Reinsch, Davy, and Marsh, for the detection of arsenic, and state the rationale of each.

11. Describe and explain the process by which Pulvis Antimonialis (D.P.) is prepared, and state the precise composition of James's powder.

12. Enumerate the modes of applying frictional and galvanic electricity for medical purposes, and state briefly their relative advantages and defects.

26th September, 1857.—*Afternoon.*

Materia Medica and Pharmacy.—Junior Class.

Examiner, Dr. Geoghegan, Prof., R.C.S.I.

1. Detail the process by which sulphate of Quina is obtained, and state its rationale.

2. Enumerate the medicines which enter the urine, distinguishing those which undergo alterations in transitû, and specifying the changes which they respectively sustain.

3. State the advantages of evaporation in vacuo, as applied to the preparation of extracts, and name some of the drugs to which this process is peculiarly applicable.

4. What are the usual contaminations of sulphuric, hydrochloric, and nitric acids, and how may they be detected and removed?

5. How is Creasote prepared? Describe its properties and adulterations, and state the most suitable mode of prescribing it in the fluid form.

6. What are the respective weights (in grains) of the troy and avoirdupois ounce; of the drachm and scruple (Dub. Pharm.); and of a fluid ounce of distilled water (at 62° F.)?

7. In what menstrua are the following substances soluble and insoluble:—gum, starch, resin, extractive matters, chlorophylle, and vegetable albumen?

8. How is the Emplastrum saponis compositum (D.P.) prepared? What is its synonyme, and what its chemical constitution?

9. How is proof spirit obtained? State its specific gravity, and the several densities of absolute alcohol, rectified spirit, and sulphuric ether.

10. Rhubarb,—enumerate its botanical sources, and natural family; detail, succinctly, its varieties, and their relative value; its proximate principles, physiological actions, and pharmaceutic preparations, with the respective constituents of the latter.

11. How do tonics and stimulants, narcotics and sedatives, respectively differ in physiological action?

12. How are essential oils obtained? Describe their chemical composition and leading properties. Name those which are heavier than water, and those which are semi-solid at ordinary temperatures.

28th September, 1857.—*Morning.*

Anatomy and Physiology.

Senior Class.

Examiner, Robert Harrison, M.D.

1. In the development of the vertebrata, symmetry as to form and size, on the right and left sides of the median

line, or spinal column, is the prevailing rule; can you state any remarkable exceptions?

2. Contrast the bones in the limbs of the elephant, the pig, and the horse.

3. Mention the principal peculiarities in the skeleton of the bird.

4. Describe the phenomena observed during the coagulation of the blood.

5. Mention some reasons in support of Mr. Hunter's opinion, that "the coagulation of the blood is an operation of life," or a process of organization.

6. Explain the appearance of inflammatory blood, and the cause of the "Buffy coat."

7. Contrast the red and white globules of the blood.

8. Do the globules present any peculiar appearance in inflammatory blood, or do they appear to have any influence in forming the buffy coat?

9. What is the form of the red corpuscles in mammalia, aves, reptilia, and pisces?

10. State the general character of the blood corpuscles in the invertebrata.

11. Describe the peculiar arrangements for the circulation of the blood in the fœtus in utero.

12. Describe the situation, the boundaries, and all the relations of the femoral or crural ring or canal; also, state the use or design of this passage, and contrast its appearance in the child, in the adult male, and female.

28th September, 1857.—*Afternoon.*

Anatomy and Physiology.

Senior Class.

Examiner, Robert Harrison, M.D.

1. The peculiar colour of the hæmatine in the red corpuscles of the blood has been supposed to depend on the iron it contains; has this been denied; if so, by whom, and on what grounds?

2. The change of colour in the blood during respiration has been ascribed to a change in the state of the iron in the hæmatine produced by the contact of gases with the blood; how has this opinion been refuted, and to what other cause has this change in colour been attributed?

3. Describe the course, and mention all the relations, of the left common carotid artery, from its origin to its division.

4. Mention the structure of "muscle," and the microscopical appearances of the "fibre."

5. Contractility of muscle is by some considered a "vis insita;" by others, a "vis nervosa." Which of these opinions is most generally approved of at the present time? and state the reasons why it is so.

6. Describe the arterial inosculations in the mesocolon from one iliac region to another.

7. Mention the principal differences between the cheiroptera and the aves, both structural and functional

8. Describe the process of dentition in the elephant; and state the differences between the teeth (proper) and the tusks.

9. Describe the course and relations of the external iliac artery.

10. Describe the digastric muscle, its relations and actions.

28th September, 1857.—*Morning.*

Junior Class.

Examiner, Robert Harrison, M.D.

1. Trace the peroneal artery from its origin to its termination. Mention its relations and anastomoses; also describe a variety, in its size and course, of frequent occurrence.

2. Describe the heart and arterial bulb or pedicle of the fish.

3. Mention the course of the circulation of the blood in fish.

4. Describe the portal vein; its origin, course, and function.

5. Describe the brachial plexus of nerves; and enumerate the branches into which it divides.

6. What nerves supply the upper extremity with sensation?

7. Contrast the dissection of the dorsum of the foot with that of the dorsum of the hand.

8. Describe the the mylo-hyoid muscle; its relations and use.

28th September, 1857.—*Afternoon.*

Junior Class.

Examiner, Robert Harrison, M.D.

1. Describe the external and internal inguinal rings in the adult male.

2. Mention the boundaries of the axilla, the several parts contained therein, and their relations.

3. Describe the anterior annular ligament of the carpus; mention all the parts which pass beneath it; also those which are superficial to it.

4. Describe the situation, the relations, and structure of the gall bladder; mention its use.

5. In birds, as there is no "ductus communis choledochus," describe the course which the bile pursues, into and out of the gall bladder to the intestine.

6. Mention the boundaries of the internal malleolar region, the parts contained therein, and their relations.

7. Describe the superior radio-ulnar articulation and its ligaments.

8. Describe the inferior radio-ulnar articulation, and contrast the motions allowed in these two joints.

23rd September, 1857.—*Morning.*

Natural Philosophy.

Eaminer, John Stevelly, LL.D.

1. Two spheres, whose radii are respectively r and r', and their weights are w and w', are placed in contact; find their common centre of gravity.

2. The launching ways of a ship have an inclination of one foot in sixteen; what force should be exerted upwards, parallel to the ways, to prevent a ship of nine hundred tons from sliding down?

3. A ship sails along her course at the rate of ten British miles per hour; find how many feet she moves over each second, and explain why a person who leaps up from her deck is not left that distance behind, if he be a second without any support from the vessel.

4. What remarkable relation is there between the spaces described in successive equal intervals of time by a body moving from rest under the influence of a uniform accelerating force?

5. Two fluids, whose specific gravities are ρ and ρ', and which have the volumes v and v', are mixed, and the volume of the mixture is found to be diminished by $\frac{1}{n}$th part of the original volumes; what is the specific gravity of the mixture?

6. Give an account of the different methods which have been employed to measure temperatures superior to the boiling point of mercury.

7. Describe the method of obtaining the density of vapours.

8. Describe the electrical condenser, and investigate the limit of the condensation which its collecting plate can effect.

9. The fundamental formula of Ohm's Theorem is $f=\frac{E}{R+r}$; explain this formula, and illustrate its application to one or two simple cases of voltaic combination.

10. Why are not the changes of temperature which take place in the pulses during the propagation of sound, from the alternate condensation and rarefaction of the air, observable by the thermometer?

11. Explain the distinction between left-handed and

APPENDIX II. Examination for Honors—M.D.

right-handed circular polarization, and by what observation substances possessing each are distinguished.

12. How has this property, as possessed by certain liquids, been turned to practical account in some of the arts?

13. Explain the optical contrivance by which the lenticular stereoscope is made to unite the corresponding points of the two pictures in the single image, as seen through the instrument.

14. Explain the distinction between homogeneous and compound light, and the discovery of Newton of the composition of solar light.

15. Describe the manner in which Sir David Brewster considers the solar spectrum to be composed, and the method of analysis of solar light resorted to by him.

24th September, 1857.—*Morning.*

CHEMISTRY.—*Examiner, Thos. H. Rowney*, PH.D.

1. Give the test for strychnine.
2. Describe Reinsch's test for the detection of arsenic.
3. Give the general characters of albumen, and show how it may be detected both in acid and alkaline urine.
4. Give a short description of the constitution, properties, and uses of the atmosphere.
5. What change does benzoic acid undergo in passing through the human system.
6. Describe the preparation and properties of chloroform.
7. Give the different views of the constitution of alcohol and ether.
8. Give an explanation and some examples of catalysis.
9. What is the constitution of the salts called alums?
10. Describe the process for preparing Scheele's hydrocyanic acid.
11. Give the tests for sugar in diabetic urine.
12. Give Graham's law for the diffusion of gases.
13. Explain the terms, Metameric, Polymeric, and Isomeric.
14. What is meant by a compound radical? Give some examples.

25th September, 1857.—*Morning.*

BOTANY.—*Examiner, Professor W. Smith*, F.L.S.

1. Give the homologies of the different parts of the floral gynesium, with reasons for your statements.
2. Explain the meaning of the $\frac{3}{\sqrt{}}$, $\frac{4}{\sqrt{}}$, and $\frac{5}{\sqrt{}}$; and show to what classes of plants they are ordinarily applicable.
3. Define the following terms:—Anatropus, orthotropus, campylotropus; and give illustrations of their use in reference to plants of the British Flora.
4. Refer the plants before you to their natural orders, give your reasons for doing so, and add brief specific descriptions of each.

ZOOLOGY.

1. To what order in Aves would you refer the extinct Dodo, and on what grounds?
2. What points in the history of the Tapeworm are now established, and what are still matters of uncertainty?
3. Point out some of the special modifications of the eye in the invertebrate animals, with the reasons of such modifications.
4. Mention some animal products that are employed in medicine, with the names of the animals supplying them.

26th September, 1857.—*Morning.*

MODERN LANGUAGES.

Examiner, Professor De Vericour.

FRENCH.

I.

Translate :—

Qu'on lise tout ce qui a été écrit sur les anévrysmes, on retrouvera partout les mêmes errements : la manière de lier promptement une artère, de porter une main audacieuse jusque sur les plus gros vaisseaux, la description d'un tout petit procédé neuf quant à l'édition, et sous l'égide duquel on veut passer à la postérité, tel est le but qu'on s'est préoccupé d'atteindre ; négligeant le fonds du problème, on s'est apesanti sur les détails, et la thérapie de l'anévrysme est restée livrée à l'empirisme et au caprice du hasard ; aussi chaque étape parcourue sur cette voie, est-elle marquée par un nom étranger à la science, ou par un succès obtenu quand même.—*Lallemand.*

II.

1. Explain the following expressions : *tumeurs à couches concentriques ; noyau graveleux, blanchâtre ; nodosités osseuses ; les ventricules regorgeaient de sérosité.*
2. Give the various significations of the words *graveleux, taille, esprit.*
3. Mention some of the words and expressions which have been taken from the French in the English medical language.
4. Give the rules of French grammar on the past participle, with examples.
5. Say what you know of Ambroise Paré.

GERMAN.

I.

Translate :—

Eine Freude, ein Lebensgenuß, wobei man ruhig an den Tod denken kann, iſt gewiß unſchuldig. Iſt man gegen jemand aufgebracht oder mißgünſtig, oder bekommt man Luſt ſich wegen einer angethanen Beleidigung zu rächen,—nur an jene Stunde gedacht und an das Verhältniß, was dort entſtehen wird, und ich ſtehe dafür, daß jene mißgünſtigen oder menſchenfeindlichen Ideen ſogleich verſchwinden werden. Die Urſache iſt, weil durch dieſe Verſetzung des Schauplatzes alle jene kleinlichen und ſelbſtſüchtigen Rückſichten aufgehoben werden, die uns ſo gewöhnlich beſtimmen ; alles bekommt mit einem Male ſeinen wahren Geſichtspunkt, ſein wahres Verhältniß, die Täuſchung ſchwindet, das Weſentliche bleibt.

II.

1. On which of the syllables does the accent regularly fall in German?
2. What is the sign of the past participle in German, and when is it omitted?
3. Name the most celebrated works of Schiller.
4. Give the signification and etymology of the following words:—mager, blaſs, hectiſh, Athem, Back, Stich.
5. Compare the German language with the Greek, with reference to the faculty of forming compound words. Give numerous examples in both languages.

ITALIAN.

I.

Translate :—

Volete prevenire i delitti? fate che i lumi accompagnino la libertà. I mali che nascono dalle cognizioni, sono in ragione inversa della loro diffusione, e i beni lo sono nella diretta. Un ardito impostore, che è sempre un uomo non volgare ha le adorazioni di un popolo ignorante, e le fischiate d'un illuminato. Le cognizioni, facilitando i paragoni degli oggetti, e moltiplicandone i punti di vista, contrappongono molti sentimenti gli uni agli altri, che si modificano vicendevolmente, tanto più facilmente quanto si preveggono negli altri le medesime viste, e le medesime resistenze. In faccia ai lumi sparsi con profusione nella nazione, tace la calunniosa ignoranza e trema l'autorità disarmata di ragioni, rimanendo immobile la rigorosa forza delle leggi, perchè non v'è uomo illuminato che non ami i publici, i chiari ed utili patti della comune sicurezza, paragonando il poco d'inutil libertà da lui sacrificata alla somma di tutte le libertà sacrificate dagli altri uomini, che senza le leggi potevano divenire cospiranti contro di lui. Chiunque ha un' anima sensibile gettando uno sguardo su di un codice di leggi ben fatte, e trovando di non aver perduto, che la funesta libertà di far male altrui sarà costretto a benedire il trono, e chi lo occupa.—*Beccaria.*

II.

1. Translate and explain *fatto ch' ebbe; parlato ch' ebbe.*

2. Give the present of the indicative of *udire.*

3. Explain the difference between *furono, errano,* and *erano.*

4. Give the present indicative and preterite of *volgere* and *volere.*

5. Explain the general character and derivation of the Italian technical terms in medical science. Give numerous examples, and comparisons with those in French and English which are totally dissimilar in their origin or etymology.

Translate into French, or German, or Italian:—

Another illustration of the fallacious substitution of a theory for a fact in causation, is afforded in the current theory of the rapid spread of the epidemic poison which excites the group of phenomena termed influenza. It is highly characteristic of a strictly infectious agent; and but for the circumstance that an insidious unperceived theory takes the place of fact in the consideration of the question, would suffice to establish its infectious character. So soon as the mind addresses itself to the question of causation, it instinctively compares the spread of influenza with its knowledge of the mode of the spread of other epidemic diseases that are known to be infectious, as the exanthemata. But it finds that the identical characteristic of influenza, which to an unbiassed judgment would most strikingly indicate its infectious character—namely, its rapidity of spread—is wholly different from these. They require many months to infect an entire population; influenza never requires as many weeks. This dissimilarity being noted, and no other facts as to influenza being brought into comparison, the inference is drawn, that the diseases are really dissimilar as to the contagious element, and that the influenza spreads too rapidly to be caused, like them, by an infectious agent. Then, as the mind cannot rest satisfied without a cause being assigned for the rapid spread, the agent nearest the apprehension—namely, the atmosphere—is selected, and so it is concluded that influenza spreads in consequence of some change or unusual "influence" in the atmosphere. This false theory of epidemic causation is not peculiar to influenza; it is the most common, as well as the most mischievous of the epidemiological fallacies.—*Dr. Laycock.*

EXAMINATION FOR DIPLOMA IN ENGINEERING.

Examination for Diploma in Engineering.

16th September, 1857.—*Morning.*

ENGINEERING AND ARCHITECTURE.

Examiner, Mr. Jack.

1. How would you set out the side widths of a cutting or embankment in side sloping ground?

2. Reduce and plot the accompanying observations, draw a formation level, beginning 5 feet below the surface, rising 1 in 450 for 600 feet, and then falling 1 in 300 for 400 feet, and calculate the quantities of earthwork, taking side slopes of $1\frac{1}{2}$ to 1, and a base of 32 feet—

B. S.	F. S.	Dists. in feet.
320	246	100
484	312	200
735	485	300
485	304	400
508	386	500
690	453	600
453	584	700
332	625	800
258	487	900
385	625	1000

3. What are the different cross sections which have been proposed for common roads? and what reasons have been advanced in support of each?

4. What are the different modes of construction which have been made use of for such roads?

5. Give the cross section and plan of a retaining wall of stone, 10 feet high, the soil being a gravelly clay; give a specification and estimate for the same, mentioning the prices of labour, &c., on which the estimate will depend.

6. Give the same, if the material to be used were brick.

7. Design a cast-iron girder, of 25 feet long, to carry a load of 8 cwt. to the foot run, specifying the iron; and state what you would expect it to cost at present.

8. What weight may be placed on a cast-iron pillar, 14 feet high, and $4\frac{1}{2}$ inches in diameter?

9. Width of weir = 12 feet.
Width of stream = 18 feet.
Depth over weir = 4 inches;
calculate the discharge.

10. Calculate the discharge from a circular pipe of 2 inches in diameter, and having a fall of 1 in 80.

11. Give a short description, with the proportions, of the principal parts of the Grecian Doric order of architecture.

12. How would you describe the volute of the Ionic capital? What change was introduced in the later examples of this capital, and why was it introduced?

13. Describe, shortly, the most characteristic features of the perpendicular English style of architecture.

18th September, 1857.—*Afternoon.*

MOTIVE POWER AND MACHINERY.

Examiner, John Stevelly, LL.D.

1. From what depth will an engine of six horses' power raise 4 tons 16 cwt. of coals per hour?

2. What horse-power is expended in working a forge hammer which weighs 2 cwt., and makes sixty lifts per minute, each lift being two and a-half feet.

3. Explain what engineers mean by the "effective pressure" of the steam—(*a*) in high-pressure engines; (*b*) in condensing engines.

4. Explain clearly what engineers mean by the "modulus" of a machine, and give the moduli, as they have been determined, of as many as you remember of the commonest machines.

5. A train which weighs 80 tons travels up an incline of one in sixty at the rate of sixteen miles an hour, the friction is that usually found to oppose motion on a well-made railway; what must be the effective horse-power of the engine?

6. Explain the manner in which steam is used expansively; show the advantage obtained by so using it, and the kinds of work to which it is most applicable.

7. A beam, sixteen feet long, is supported at both ends, a load of 15 cwt. is placed at six feet from one end; find the strain which this exerts on a section of the beam five feet from the other end, and explain the general rule.

APPENDIX II.

Examination for Diploma in Engineering.

16th September, 1857.—*Afternoon.*

SURVEYING AND MAPPING.—*Examiner, Mr. Jack.*

1. Describe the common surveyor's chain. What are the advantages gained by its peculiar length and subdivision?

2. How would you carry on an ordinary chain survey?

3. Describe the pentagraph and its uses.

4. What instruments are ordinarily used by the surveyor for measuring angles? State in what kind of work each instrument is used.

5. How are the different elevations of the different parts of a country indicated on a map?

6. How would you lay down a circular curve in the field, to connect two straight lines—

(*a*) By the chain and offset? (*b*) By the chain and theodolite?

7. Describe the common level.

8. If a level were completely out of adjustment, how would you, by means of it, obtain three level points?

9. How would you make a section of a given line? Show that the custom of taking several sights from the one position of the level, does not introduce any appreciable error.

15th September, 1857.—*Afternoon.*

DRAWING AND GEOMETRY.—*Examiner, Mr. Jack.*

1. Construct a scale of perches at the rate of six inches to a mile.

2. Construct a scale of feet at the rate of 4·84 feet to one inch.

3. Give the span and rise of a circular arc; how would you construct it by points?

4. How would you convert a square into a regular octagon?

5. If a regular pentagon lie in a plane making given angles with the horizontal and vertical planes of projection, one side of the pentagon being horizontal, draw its projections.

6. A hexagonal pyramid stands with its axis vertical, and a diagonal of its base perpendicular to the vertical plane of projection, draw the projection of a section of it made by a vertical plane, which makes an angle of 30°, with the vertical plane of projection, and does not pass through the axis of the pyramid.

7. Draw the projections of the section of a vertical circular cone, cut by a plane perpendicular to the vertical plane of projection.

8. Draw the projections of the intersection of two equal cylinders whose axis intersect, the axis of one being vertical and that of the other horizontal, and making 45° with vertical plane of projection.

9. How would you place in isometrical projection a curve lying in one of the three principal planes?

17th September, 1857.—*Morning.*

MATHEMATICS.

Examiner, George Boole, LL.D., F.R.S.

1. Find a fourth proportional to $2\frac{1}{2}$, $3\frac{1}{3}$, and $4\frac{1}{4}$; and express, in its simplest form, the value of each of the ratios involved in the complete proportion.

2. What description of vulgar fractions admits of being reduced to finite decimals? Reduce the following fractions to decimals, viz., $\frac{5}{16}$, $\frac{7}{40}$, $\frac{23}{99}$, and exemplify thereby the condition referred to.

3. Find, by decimals, the value of 12 cwt. 2 qrs. 21 lbs., at £2 10*s.* 6*d.* per cwt.

4. Reduce to their simplest forms the algebraic expressions—

$$\frac{9x^2-a^2}{3x+a},\quad \frac{x^3+8a^3}{x+2a},\quad \text{and}\quad \frac{x+y}{x-y}+\frac{x-y}{x+y}-\frac{2xy}{x^2-y^2}$$

5. Find the base and perpendicular of a right-angled triangle, whose hypothenuse measures 65 feet, and whose area is 1,014 feet.

6. The base and perpendicular of a right-angled triangle are in the ratio of 7 to 8, and the hypothenuse is 100; find approximately the values of the base and perpendicular.

7. Solve the equations—

$$\sqrt{1+x^2}+\sqrt{1-x^2}=a$$
$$x-\frac{x-16}{\sqrt{x-4}}=25-x$$

8. Solve the simultaneous equations—

$$\frac{x}{y}+\frac{y}{x}=a$$
$$\frac{x}{y^2}+\frac{y}{x^2}=b$$

9. Solve the more general system—

$$\frac{x}{y}+\frac{y}{x}=a$$
$$\frac{x^m}{y^{m+1}}+\frac{y^m}{x^{m+1}}=b$$

10. Two sides of a plane triangle being a, b, and the contained angle θ, deduce an expression for the area. Show hence, that when two sides of a triangle and its area are given, the angle included between the sides will, in general, admit of two values. What is the exception?

11. Form the equation of which $1, -1, 2+3\sqrt{-1}$, and $2-3\sqrt{-1}$ are the roots. Find also all the roots of the equation, $x^3-3x^2+7x-5=0$, it being given that one of the roots is unity.

12. Investigate a formula for the solid content of a conic frustum in terms of the height h, the radius of the base R, and the radius of the top r; apply it to the case in which $h=12$ feet $R=5$ feet, $r=3$ feet.

13. Two sides of a parallelogram are a and b, and the ratio which one diagonal bears to the other diagonal is r; find hence the area of the parallelogram.

17th September, 1857.—*Afternoon.*

Examiner, George Boole, LL.D., F.R.S.

1. Prove that the interior angles of any quadrilateral figure are equal to four right angles. To what further condition are they subject when the quadrilateral admits of being circumscribed by a circle?

2. Required to describe a circle about a given equilateral and equiangular pentagon.

3. Required to describe a rectilineal figure, which shall be equal to one and similar to another given rectilineal figure.

4. If from the vertical angle of a triangle a straight line be drawn perpendicular to the base, the rectangle contained by the sides of the triangle is equal to the rectangle contained by the perpendicular, and the diameter of the circle described about the triangle.

5. Given the perimeter and the angles of a triangle; required to construct it geometrically. Required also an expression for its area in terms of the given elements.

6. Prove that $\text{tan. } 2\text{ A}=\frac{2\text{ tan. A}}{1-\text{tan.}^2\text{ A}}$, and hence deduce an expression for tan. 4 A in terms of tan. A.

7. Prove the truth of the equations—

$$\text{cot. } (45°+\text{A})=\sqrt{\frac{1+\text{sin. } 2\text{ A}}{1-\text{sin. } 2\text{ A}}}$$

4 sin. A sin. (60°+A) sin. (60°−A)=sin. 3 A.

8. Investigate an expression for the tangent of half an angle of a plane triangle in terms of the sides. When would such an expression be more advantageous than the formula expressing the sine of half an angle of a triangle in terms of the sides?

9. Investigate corresponding formulæ for spherical trigonometry.

10. Demonstrate the relation which exists between a spherical triangle and its polar triangle.

11. Find all the roots of the equation—

$$\text{tan. } a=\text{sin. } 2a.$$

Also solve, completely, the equations—

$$\text{sin. } \theta+\text{cos. } \phi=a,$$
$$\text{cos. } \theta+\text{sin. } \phi=b.$$

12. Define, astronomically, the different parts of that

triangle in the celestial sphere, whose angular points are formed by the poles of the equator and ecliptic, and the sun; hence deduce some possible problems of spherical astronomy.

13. Give a definition of similar curves. Prove that all parabolas are similar curves.

14. Defining an ellipse by means of its property relative to a focus and a directrix, deduce thence the equation of the curve, and prove that the sum of the focal distances of a point in the curve is invariable.

15. Show how to generate the parabola by continuous motion.

16. Define a dihedral and a trihedral angle, and explain the different modes in which they are measured.

18*th September*, 1857.—*Afternoon.*

Examiner, John Stevelly, LL.D.

1. Give a clear analysis of Duchayla's proof of the Parallelogram of Forces, without going through the proofs of the several propositions.

2. Four weights are placed on a horizontal lever: one of 14 lbs, at 10 inches from its fulcrum; one of 20 lbs. at 7 inches; one of 11 lbs. at 15 inches; and one of 36 lbs. at 5 inches; and all at the same side. What force, acting at two feet and one inch distance from the fulcrum, would produce equilibrium?

3. On the same supposition as the last, state the two points at which the equilibrating force, if it act up, or down, in a vertical line, must be applied; and give the pressure which the fulcrum sustains in each case.

4. A wheel of 5 feet in diameter is acted on by a force of 20 lbs. at its circumference; what load will this sustain on a compound axle, the diameter of one part of which is 16 inches, and that of the other part, 14 inches?

5. Prove that if a body move from rest under the action of any uniform force, and if it acquire the velocity, v, in the time t; then the space described, $s=\frac{v \times t}{2}$.

6. By the Act of Parliament which determines the Weights and Measures of Great Britain, the length of the pendulum which swings seconds in London is declared to be 39·13929 imperial standard inches. Explain fully, how, from that fact, we obtain the measure of the dynamic force of gravity at London, in feet per second; but do not go through the arithmetic operations.

7. What height would a musket bullet rise to from the earth which was shot upwards vertically, with a velocity of 1,640 feet per second, supposing it not to be resisted by the air?

8. The specific gravity of wrought iron is 7·78. A ploughshare let gently into a vessel of water, carefully filled up to an overflow pipe, is found to displace 114·5 cubic inches of the water; what is the weight of the ploughshare?

9. Explain the total reflexion of light which takes place at the boundary between a denser and a more rare optical medium; and give the relation between the limiting angle at which it takes place, and the indexes of refraction.

10. Explain how the distance of a heavenly body, from the centre of the earth, and its parallax, are related; and explain by what observations the distance of the same body can be determined at successive times.

11. In a certain hygrometric state of the air, 100 cubic inches are found to weigh 30·5 grains. Show how the number expressing the specific gravity of air in that state is obtained, distilled water at 60°, and standard pressure being the unit.

12. Explain how the height of a homogeneous atmosphere of the same constitution as in the preceding question may be calculated, the height of the barometer being supposed 30 inches, and the density of mercury 31·6 to distilled water, 1.

13. Explain the great accumulation of electricity obtained by charging a Leyden jar.

14. State, clearly, the difference of action of one permanent magnet when brought into the neighbourhood of another; and of the same magnet when brought near a bar of soft iron; and explain the difference.

15. A flask of water, when boiling freely, is corked up, and all ebullition immediately ceases. It is then plunged into cold water, when violent ebullition again commences. Explain these facts.

18*th September*, 1857.—*Morning.*

CHEMISTRY.

Examiner, Thos. H. Rowney, PH.D.

1. Describe the method of taking the specific gravity of a body heavier than water.

2. Give the laws of combining proportions.

3. Describe the preparation and properties of sodium.

4. Give a description of Daniell's pyrometer.

5. Give an explanation of the term latent heat.

6. What influence has atmospheric pressure on the boiling point of water?

7. Give a description of water, its composition, properties, and the forms in which it exists.

8. Give the properties and some of the principal sources of carbonic acid.

9. Explain the terms rich or fat lime and poor lime.

10. Describe the method of obtaining quick lime.

11. Describe the preparation and properties of hydrochloric acid.

12. Give the formulæ, with water of crystallization, of the following sulphates:—alum, sulphates of baryta, lime, zinc, copper, manganese, and nickel.

13. Mention the tests for the following metals:—potash, soda, lime, alumina, iron, cadmium, and silver.

14. How is hydrofluoric acid prepared, and to what uses is it applied?

19*th September*, 1857.—*Afternoon.*

MINERALOGY, GEOLOGY, AND PHYSICAL GEOGRAPHY.

Examiner, Professor William King.

1. Describe the principal kinds of igneous rocks.

2. Explain the prevailing view as to the conditions under which granite has been formed.

3. Describe the principal kinds of sedimentary rocks; and explain the origin of some, leaving out of consideration the "drift."

4. Describe the principal kinds of metamorphic rocks; and account for their present condition.

5. Describe quartz, orthoclase, augite, hornblende, calcite, mica, gypsum, gold, iron pyrites, and galena.

6. Give a tabular view of the various sedimentary rocks divided into "systems;" and name some of the characteristic fossils of each.

7. Explain the generally received view as to the origin of the "drift."

8. Give the meaning of the terms "strike" and "dip," as applied to stratification.

9. Name the principal deltas of the globe; and explain the formation of any particular one.

10. What are isothermal lines?

11. Name the principal active and extinct volcanoes.

12. Make diagrams representing a synclinal and an anticlinal valley, each showing jurassic, cretaceous, and eocene beds at the surface.

13. Represent a transverse section of a mountain range, with a granitic axis, that has undergone upheaval during the eocene, miocene, and pleiocene periods.

14. Explain the principle of the artesian well.

APPENDIX II.

Examination for the Diploma in Agriculture.

EXAMINATION FOR THE DIPLOMA IN AGRICULTURE.

15th September, 1857.—*Morning.*

SCIENCE OF AGRICULTURE.

Examiner, Professor Skilling.

1. What are the principal constituents, organic and inorganic, elementary and compound, of all soils? What do we mean by the terms, active soil and subsoil? Explain the difference.
2. What is the most common and best classification of soils in Ireland, and how are the constituents arranged, so as to give each class its proper designation?
3. Point out the different processes you would recommend or adopt for improving each of the classes of soils, chemically and mechanically.
4. What do you consider the best manure for general purposes; how is it best obtained, managed, and applied?
5. State the chief uses of lime in agriculture; how and under what circumstances *it should, and should not be applied.*
6. Likewise of guano and bones, how they should be applied.
7. Explain fully the process of vegetation and growth of farm plants, from the deposition of the seed until the maturing of the crops and seed again.
8. What are the various kinds of food, organic and inorganic, necessary for plants; from what sources derived; in what condition absorbed? Point out the processes of absorption and assimilation.
9. Enumerate and name the principal proximate principles of agricultural plants, their several uses as the food of animals, and the crops most favourable for their production.
10. What is the acknowledged best theory of a rotation of crops?

15th September, 1857.—*Afternoon.*

PRACTICE OF AGRICULTURE.

Examiner, Professor Skilling.

1. Describe the leading features of the agriculture of the ancients, from the Egyptians down to the Romans.
2. Point out the distinguishing characteristics of Belgian agriculture, the lessons we have received or may receive, from their admirable system.
3. What are the advantages of green-crop cultivation in regard to the feeding of stock, the condition of the land, and the prosperity of the farmer?
4. How will you classify all the cultivated plants of the farm? Name the members of each class.
5. In the choice of a farm what are the most important points to be considered?
6. Describe a four, five, and six course rotation suitable for a farm of medium soil, under the present circumstances of the country.
7. Name the usual cultivated green fallow crops, turnips, &c., &c., in the United Kingdom, the soil suitable for each, the proper time of sowing, quantity of seed per acre (statute), the most advantageous modes of culture, and the average returns per acre.
8. Apply the last question, in all its details, to the cereal crops.
9. Mention the artificial grasses and clovers at present most esteemed, their value for soiling and hay, the times of sowing, quantity of seed per statute acre; and in cases of laying down to permanent pasture, the best natural grasses to be sowed with them.
10. Particularize some of the best agricultural implements and machines that have been exhibited, tried, and found really efficient in modern times.

16th September, 1857.—*Morning.*

HISTORY AND DISEASES OF FARM ANIMALS.

Examiner, Professor Skilling.

1. Point out the present most approved breeds of farm horses in the United Kingdom: the comparative merits of each breed.
2. How have the present race of farm horses in Ireland been bred; what are their merits and demerits?
3. How may a farmer best obtain, by breeding, a good general farm horse; how a roadster, harness, or hunter?
4. What are the true principles of breeding all kinds of farm stock?
5. Name the most highly prized breeds of cattle of the present day, and give your reasons why they are considered so.
6. Also of sheep.
7. Likewise of pigs.
8. What is the usual and most simple classification of all cattle? Name the different kinds in their respective classes.
9. Also of sheep.
10. What are considered the true principles of crossing, and the benefits derived therefrom?

16th September, 1857.—*Afternoon.*

SURVEYING AND MAPPING.

Examiner, Mr. Jack.

1. Describe the common surveyor's chain. What are the advantages gained by its peculiar length and subdivision.
2. How would you carry on an ordinary chain survey?
3. Describe the pentagraph and its uses.
4. What instruments are ordinarily used by the surveyor for measuring angles? State in what kind of work each instrument is used.
5. How are the different elevations of the different parts of a country indicated on a map?
6. How would you lay down a circular curve in the field, to connect two straight lines—(*a*) By the chain and offset? (*b*) By the chain and theodolite?
7. Describe the common level.
8. If a level were completely out of adjustment, how would you, by means of it, obtain three level points?
9. How would you make a section of a given line? Show that the custom of taking several sights from the one position of the level, does not introduce any appreciable error.

17th September, 1857.—*Morning.*

ARITHMETIC.

Examiner, George Boole, LL.D., F.R.S.

1. What is the cost of mowing 10 acres, 2 roods, 15 perches of wheat, at 10*s.* 6*d.* per acre?
2. If 6 men earn £2 16*s.* 9*d.* in 5 days, how much will 10 men earn in 15 days at the same rate?
3. What rate of interest is obtained by purchasing for £2,000 an estate producing £72 10*s.* per annum?
4. Express 3 roods, 29½ perches, as a decimal fraction of an acre, and compute its value, when the value of an acre is £75.
5. From a rectangular plank, whose breadth is 2 feet, 3½ inches, it is required to cut off a square yard; at what distance from the end must the section be made?
6. The hypothenuse of a right-angled triangle measures 54 yards, and its base measures 46 yards; find an approximate value of the perpendicular.
7. The base of a triangular field measures 2,850 links, and the content of the field is 28 acres, 2 roods, 32 perches; required the length of the perpendicular.
8. The sides of a triangular field are 351, 468, and 585 links respectively; determine its area in acres, roods, and perches.
9. State and exemplify the rule for measuring unsquared timber.
10. A field, in the form of an equilateral triangle, contains 2 acres; what is the length of each side?
11. A block of stone, in the form of a regular four-sided prism, weighs 2 tons. If its length be 3 feet, breadth 2 feet 6 inches, and thickness 2 feet, determine the specific gravity of the material.

12. Define the geometrical solid called a wedge, and show how to determine its solid content. Give also a rule for finding the solid content of a frustum of a wedge, and mention some case in which the necessity for such a rule practically arises.

13. The dimensions of an irregular circular haystack are as follows, viz.:—girt, or circumference of the base or first section, 50 feet; second section, 60 feet; third section, 65 feet; fourth section, 60 feet; fifth section, 62 feet; the common distance of these sections is 3 feet, and the height of the cone of which the fifth section forms the base, is 12 feet; required the content of the haystack.

14. Show how to bisect a triangular field by a straight line drawn from a given point in one of its sides.

15. Give an example of the mode of keeping the accounts of a farm.

18*th September*, 1857.—*Afternoon.*

NATURAL PHILOSOPHY.

Examiner, John Stevelly, LL.D.

1. A farmer requires to carry a load of 140 lbs., on a pole 12 feet long, but he wishes to load his son, who carries the other end of the pole, with only 40 lbs. of the entire weight; where must he place it on the pole?

2. Two weights, one of 112 lbs., the other of 80 lbs., are suspended from the extremities of a uniform rod, 7 feet asunder; the rod itself weighs 32 lbs.:

a. What point of the rod must be supported, in order that it may rest in any position in which it is placed?

b. What is the pressure sustained by the support?

3. A wheel of 5 feet in diameter is acted on by a force of 20 lbs. at its circumference; what load will this sustain on a compound axle, the diameter of one part of which is 16 inches, and that of the other part, 14 inches?

4. A falling pulley has two sheaves in its block, to which one end of the rope which reeves it is attached; what weight, attached to the block, would a power of 168 lbs. drawing the other end of the rope, sustain in equilibrio?

5. Two impulsive forces, one of which, if it acted alone, would impart to a certain body a velocity of 12 feet per second; the other, if it alone acted on the same body, would impart a velocity of 16 feet per second; if they act together on the body, in directions which contain a right angle, what velocity will the body begin to move with, and how is the direction of the motion determined?

6. How many decimal parts of an inch must I alter the length of a pendulum that loses two seconds in the twenty-four hours, to make it go right? (The correct length of the pendulum which swings seconds, is, suppose 39·1393 inches.)

7. The specific gravity of wrought iron is 7·78. A ploughshare let gently into a vessel of water, carefully filled up to an overflow pipe, is found to displace 114·5 cubic inches of the water; what is the weight of the ploughshare?

8. Explain the use of the parabolic reflector in a light-house.

9. Explain how the right ascension of a heavenly body is observed, and the rule by which the hours, minutes, and seconds, shown by the clock, are converted into degrees, minutes, and seconds.

10. In a certain hygrometric state of the air, 100 cubic inches are found to weigh 30·5 grains. Explain how the number expressing the specific gravity of air in that state is obtained; distilled water at 60°, and standard pressure being taken as unity.

11. Explain how the height of a homogeneous atmosphere of the same constitution as in the preceding question may be calculated, the height of the barometer being supposed 30 inches, and the density of mercury 13·6 to distilled water, 1.

12. Explain the great accumulation of electricity obtained by charging a Leyden jar.

13. State, clearly, the difference of action of one permanent magnet when brought into the neighbourhood of another; and of the same magnet when brought near a bar of soft iron: and explain the difference.

14. A flask of water, when boiling freely, is corked up, and all ebullition immediately ceases. It is then plunged into cold water, when violent ebullition again commences. Explain these facts.

18*th September*, 1857.—*Morning.*

CHEMISTRY.—*Examiner, Thos. H. Rowney*, PH.D.

1. Give the laws of combining proportions.

2. How is ammonia obtained, and what are its properties?

3. Give the properties and some of the principal sources of carbonic acid.

4. Describe the method of taking the specific gravity of a body heavier than water.

5. Give a description of water, its composition, properties, and the forms in which it exists.

6. What is the average composition of Peruvian guano?

7. How may starch be converted into sugar?

8. From what source do plants obtain their carbon?

9. What is the action of lime upon soils in general?

10. How may the nitrogen of guano be determined?

11. Give the tests for phosphoric acid, sulphuric acid, potash, lime, magnesia, and alumina.

12. Explain the term, latent heat.

13. How is hydrofluoric acid obtained, and to what uses is it applied?

14. Mention the chief inorganic constituents of plants.

19*th September*, 1857.—*Morning.*

ZOOLOGY.—*Examiner, Professor W. Smith*, F.L.S.

1. Name the animal tissues in the order of their importance or universality.

2. Point out the distinctions that exist in the alimentary qualities of ordinary animal and vegetable food, and show what special ends are subserved by them in the animal economy.

3. Describe the special arrangements of the digestive organs which occur in Ruminantia, and the structural peculiarities of the dental, metatarsal, and phalangal bones which usually are associated therewith.

4. To what stock is common sheep usually referred? Where is the species found in its wild state?

5. Refer the ox, hog, goat, horse, cat, and rabbit, to their respective orders; give the generic and specific name of each.

BOTANY.

1. Mention the chief sources and constituents of plant food, and describe the organization by which it is appropriated and assimilated.

2. Distinguish between Exogens, Endogens, Acrogens, and Thallogens, in aspect, mode of growth, and internal arrangement of tissues.

3. What are the essential distinctions between a root and a stem? To which do you refer potatoes, turnips, onions, and Jerusalem artichokes?

4. Give their botanical names, and refer to their natural orders, the carrot, turnip, mangel-wurzel, wheat, and potato.

19*th September*, 1857.—*Afternoon.*

MINERALOGY, GEOLOGY, AND PHYSICAL GEOGRAPHY.

Examiner, Professor William King.

1. Describe the principal kinds of igneous rocks.

2. Explain the prevailing view as to the conditions under which granite has been formed.

3. Describe the principal kinds of sedimentary rocks; and explain the origin of some, leaving out of consideration the "drift."

4. Describe the principal kinds of metamorphic rocks; and account for their present condition.

APPENDIX II. — Examination for the Diploma in Agriculture.

5. Describe quartz, orthoclase, augite, hornblende, calcite, mica, gypsum, gold, iron pyrites, and galena.

6. Give a tabular view of the various sedimentary rocks divided into "systems;" and name some of the characteristic fossils of each.

7. Explain the generally received view as to the origin of the "drift;" and the relation of this deposit to the soils overlying it.

8. Give the meaning of the terms "strike" and "dip," as applied to stratification.

9. Name the principal deltas of the globe; and explain the formation of any particular one.

10. What are isothermal lines?

11. Name the principal active and extinct volcanoes.

12. Make diagrams representing a synclinal and an anticlinal valley, each showing jurassic, cretaceous, and eocene beds at the surface.

13. Represent a transverse section of a mountain range, with a granitic axis, that has undergone upheaval during the eocene, miocene, and pleiocene periods.

Examination for Honors—Agriculture.

EXAMINATION FOR HONORS—AGRICULTURE.

26th September, 1857.—*Morning.*

PRACTICE OF AGRICULTURE.

Examiner, Professor Skilling.

1. Compare and estimate the merits of manual labour, spade, fork, &c., with horse labour, plough, &c., &c.; detail the advantages of each, under what circumstances either can be judiciously and economically applied, or both together?

2. Suppose you take on lease 100 acres of land, the whole formerly mismanaged, the greater part wet, shallow, poor, and foul; the soil a medium clay, with a calcareous and siliceous subsoil; the landlord agrees to erect suitable farm house and offices; the situation convenient to a railway not far from a good market town: how shall you proceed to permanently improve it and get the land into high condition? Explain the different operations, and estimate the cost per acre; state what course of cropping you will incline to follow, and how long it may be from the commencement until you get into your rotation?

3. What are the differences, the advantages, and disadvantages, of the small farm system, and the large farm system, both correctly and economically carried out?

4. Say you take a farm of 200 acres, one-half good pasture land, the other half light peaty soil and cut-out bog: how will you best improve and manage the whole in order that one part may assist and benefit the other, and return fair profits upon the whole?

5. On a small farm, say twelve statute acres, of fair quality, what would be the best course of cultivation and management; what kinds and quality of stock should be kept; what implements used; what would be the average annual cost of labour; and what might be fairly considered the value of the annual gross produce per acre?

6. Under present circumstances, and rates of markets for farm produce, stock and crops, what do you consider the more prudent and correct system for the farmer to pursue whereby he may realize the greater profits at the same time keep his land up in high condition? Do you prefer tillage to pasture and stock farming, or the contrary? Give your reasons for your opinions.

23rd September, 1857.—*Afternoon.*

SCIENCE OF AGRICULTURE.

Examiner, Professor Skilling.

1. Point out what you would consider the best composition of an aluminous soil, calcareous soil, and siliceous soil, suitable to the climate of Ireland; mention the necessary elementary and compound substances in each.

2. In what condition should every soil be, in order to insure the greatest fertility?

3. Classify the different kinds of food of plants, organic and inorganic. Is it your opinion that the term *organic*, thus applied, is correct; or should it be superseded by a more correct and suitable term?

4. On what principle or system would you proceed to commence a correct and concise system of farm accounts?

5. How many separate books do you think necessary to be kept? Explain the nature and contents of each on the Dr. and Cr. sides.

6. What kind of stock-book would you prefer, and how would you arrange it, so as to exhibit all the animals of the farm, their breeds, ages, and several values?

7. On what principle would you proceed to value tillage land in general? Estimate the necessary amount of capital per acre sufficient for the proper management of such?

8. In regard to the pasture lands of Ireland, how will you classify and value them? What would be the proper amount of capital per acre for each class? How does pasture and tillage land differ as to the necessary skill in management, the expenses of such, and the ultimate profits to the farmer?

26th September, 1857.—*Afternoon.*

HISTORY AND DISEASES OF FARM ANIMALS.

Examiner, Professor Skilling.

1. Mention the most important good points of a saddle-horse, also a draught horse, and your reasons for thinking them so.

2. What are the blemishes that constitute unsoundness in the horse? Name the local seats of them, and the causes that may produce such.

3. What are the common diseases incident to the horse? Classify them, and suggest the common and simple remedies.

4. What are the best points for a good milch cow; also shapes, form, and condition for laying up muscle and fat?

5. Enumerate and point out the most common diseases that cattle are subject to, with the best modes of prevention and cure.

6. Name the important good points of the improved breeds of sheep, their qualities that render them superior to the other common breeds.

7. Mention the most common diseases that sheep are subject to; the best modes of prevention and cure.

8. Among farm animals, what is the difference between a *race* and a *breed?*

9. In the United Kingdom, during the last twenty years, name the persons who have been distinguished as the best breeders of cattle and sheep.

10. Upon the whole, taking all matters into consideration, what do you consider the more profitable stock for the farmers in general to breed and keep? Give your reasons in detail.

24th September, 1857.—*Afternoon.*

SURVEYING.—*Examiner, Mr. Jack.*

1. In a chain survey, what checks have you on the accuracy of (1) the plot; (2) the calculated acreage?

2. Calculate the acreage of a piece of ground from the accompanying observations.

3. Plot a section from the accompanying observations.

4. What checks have you on the accuracy of your numerical work in No. 3?

28th September, 1857.—*Morning.*

MATHEMATICS.

Examiner, George Boole, LL.D., F.R.S.

1. Reduce the following fractional expressions to their simplest forms, and find the actual values when the unit is one acre, viz :—

$$\frac{2\frac{1}{5}}{5} \text{ of } \frac{30}{21} \text{ of } 9, \qquad 2\tfrac{1}{3} + \frac{7}{8} \text{ of } \frac{4}{35} \text{ of } \frac{2\frac{1}{2}}{3}.$$

2. Define the terms *ratio* and *proportion*, and state the difference between simple and compound proportion. What is meant by "continued proportion?"

3. If $6\frac{3}{4}$ yards of cloth, $\frac{1}{5}$ yard wide, cost £5 15*s.* 6*d.*, what will be the cost of $16\frac{5}{8}$ yards of cloth, $1\frac{1}{3}$ yard wide, at the same rate?

4. Explain the terms "greatest common measure" and "least common multiple," and state in what kinds of problems they are of use.

5. Give the meanings of the terms *square root* and *cube root*. Extract the square root of 12345·4321, and the cube root of 7·529536.

6. Exemplify the use of the rules for the extraction of roots in the following problems, viz. :—

1st, What is the radius, expressed in links, of a circle whose area is 3·1416 acres?

2ndly, The length, breadth, and depth of a pit in the form of a parallelopipedon are in the ratio of 4, 3, and 2, and its content is 3000 solid yards; find the actual dimensions.

7. An imperial gallon contains 277·274 cubic inches; how many gallons will be contained in a cylindrical cistern whose diameter is 4 feet and depth 5 feet?

8. Compare the actual rule for the measuring of unsquared timber, supposed to be cylindrical, with the rigorously exact rule, and determine in what ratio its results are in excess of the true results.

9. The perpendicular of a right-angled triangle measures 900 links, its hypothenuse measures 975; what is the length of its base, and what is its area expressed in acres?

10. The standard rod of brickwork being $272\frac{1}{4}$ square feet, and the standard thickness three half bricks, find the cost of building a wall 99 feet long, 5 feet 6 inches high, and $2\frac{1}{2}$ bricks thick, at £4 4*s.* for the standard rod of standard thickness.

11. A farmer buys 70 sheep at £1 11*s.* 6*d.* per head, and of these, after six months' pasturage, he sells 25 at £2 10*s.*, 30 at £2 5*s.* 6*d.*, and 10 at £2 2*s.* per head; the rest he loses by disease. Now, supposing the pasturage and attendance to have cost him 7*s.* 6*d.* per head on all the sheep that were finally sold, and 10*s.* per head on those which perished, what was his total gain, and by how much did it exceed or fall short of the interest which he would have obtained by putting out the cost price of the sheep at interest at 5 per cent. per annum, for the given time?

12. Find, also, what was the gain per cent. on the original outlay in the above case.

13. Exhibit, too, the whole transaction in a series of debtor and creditor accounts, under the heads, *Stock*, *Cash*, *Profit* and *Loss*, supposing the date of the original purchase to be March 1st, 1856.

14. How many solid yards of earth must be removed in the excavation of an open drain, whose length is 40 yards, and whose cross sections, supposed trapezoidal, and taken at successive intervals of 10 yards, are exhibited in the following table, viz. :—

	First Section.	Second Section.	Third Section.	Fourth Section.	Fifth Section.
	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
Breadth at top, .	12 0	12 6	12 0	11 6	12 0
Breadth at bottom, .	8 0	7 6	7 9	8 6	8 0
Depth, . . .	6 0	5 9	6 2	5 9	6 0

15. In what respect would the necessary measurements and calculations differ from the above, if the sections were not trapezoidal?

16. A square field, whose content is 10 acres, is to be under-drained by laying pipes in rows parallel to one side, the distance between any two consecutive rows, and between the end rows and the hedges, being 22 yards; find the number of pipes required, supposing the length of each pipe to be 1 foot. Find, also, the cost of laying down the pipes, at the rate of 1*s.* $7\frac{1}{2}$*d.* for 11 yards.

23rd September, 1857.—*Morning.*

ELEMENTS OF PHYSICS.

Examiner, John Stevelly, LL.D.

1. What should be the weight of a cannon ball, moving at the rate of 1,600 feet per second, that it should strike with the same force as one of 30 lbs. moving with a velocity of 2,400 yards per minute?

2. Explain the fact that icebergs, though moving with almost imperceptibly slow motion, exercise such crushing effects upon ships which they nip.

3. Two equal and perfectly elastic balls meet with given velocities, and strike, the centre of each, moving in a line which passes through the centre of the other; prove that they will reciprocate their velocities after collision.

4. Describe the instrument invented by Professor Oersted for determining the compressibility of water and other fluids, and give some of the results which he obtained.

5. If you hold a tuning fork, when vibrating, near your ear, and turn it slowly round, in one position, the sound will appear loudest; in another, no sound at all will be heard; and in intermediate positions, sound varying between the loudest and none will be heard. Explain these facts, and distinguish these positions.

6. Explain the optical contrivance by which the lenticular stereoscope is made to unite the corresponding points of the two pictures in the single image, as seen through the instrument.

7. Explain the distinction between homogeneous and compound light, and the discovery of Newton of the composition of solar light.

8. Describe the manner in which Sir David Brewster considers the solar spectrum to be composed, and the method of analysis of solar light resorted to by him.

9. Give an account of the different methods which have been employed to measure temperatures superior to the boiling point of mercury.

10. How are temperatures determined about and below that at which mercury assumes the coherent or solid state?

11. Describe the method of obtaining the density of vapours.

12. Describe the electrical condenser, and explain its use.

13. Describe the three kinds of electrometers and magnetometers used by Sir W. Snow Harris.

14. When an electric current is passed over a freely suspended magnetic needle, explain the law according to which the needle is deflected.

15. Explain the action of an induction coil.

24th September, 1857.—*Morning.*

CHEMISTRY.

Examiner, Thomas H. Rowney, PH.D.

1. Give a short description of the constitution, properties, and uses of the atmosphere.

2. Describe the process of malting barley.

3. Explain the difference between heat and temperature.

4. Give the general characters of chemical affinity.

5. Explain the formation of dew.

6. Give Graham's law for the diffusion of gases.

7. Contrast the principal functions of plants and animals.

APPENDIX II.

Examination for Honors—Agriculture.

8. Describe the artificial formation of nitre.
9. Give a short description of the manufacture of starch.
10. What is the composition of coprolites?
11. Describe the preparation and properties of oxygen.
12. What rule is followed in naming the compounds formed by the union of oxygen with other elements?

25th September, 1857.—*Morning.*

ZOOLOGY.

Examiner, Professor W. Smith, F.L.S.

1. Explain the mode in which animal heat is generated, account for the influence of different kinds of food upon its more or less rapid development, and show its relation to vital activity.
2. Describe the successive developments which take place in the history of a Lepidopterous insect; in what state are such insects usually most directly injurious to the agriculturist? Give examples in illustration.
3. Give the names of the orders included in the subclasses of osseous and cartilaginous fishes, respectively, with an illustrative British species under each order.
4. Describe the differences of structure and homological relations which characterize the "horns" of the Ruminantia in different families, and give examples of each.

BOTANY.

1. Mention some of the organic arrangements by which the dissemination of seed is secured.
2. How would you ascertain the age of an elm or oak by examining its internal structure? Would the same method be applicable to all trees? If not, explain the reason.
3. On what principles would you explain the effects resulting from a "rotation of crops" upon the healthy growth of the plants concerned?
4. Arrange the structures and organs of plants in the relative order of their importance in a natural system of classification.
5. Name the grasses on the table, and mention their relative values to the agriculturist.

25th September, 1857.—*Afternoon.*

MINERALOGY, GEOLOGY, AND PHYSICAL GEOGRAPHY.

Examiner, Professor William King.

1. On what grounds do you explain the climatic differences between the eastern and western shores of the North Atlantic?
2. Name the principal table-lands of the globe, especially those within the tropics possessing capabilities suitable for British agriculturists.
3. Explain the origin of recent lake marl.
4. Explain the mode of decomposition of granitic and basaltic rocks, stating, at the same time, the deposits resulting therefrom, and their agricultural value.
5. Name any stratified deposits of value as a fertilizer.
6. Explain the origin of carbonaceous deposits; and account for the differences between peat, coal, and anthracite.
7. State what you know respecting the jointed structure of rocks in general, and the fissility of slates.
8. Name and describe the axial systems of minerals, mentioning a mineral type for each.
9. Describe the process of warping.

APPENDIX III.

Degrees, Diplomas, and Certificates.

APPENDIX III.

DEGREES, DIPLOMAS, AND CERTIFICATES CONFERRED, 1857.

1. *Degree of Doctor in Laws.*

D. Caulfeild Heron, LL.D., University of Dublin, Professor of Jurisprudence and Political Economy in the Queen's University, *ad eundem.*

2. *Degree of Doctor in Medicine.*

Name.	College.
J. Colahan,	Galway.
J. W. Collins,	Cork.
M. J. Crean,	Galway.
A. Dunlop,	Belfast.
P. J. Kelly,	Galway.
W. M'Cormac,	Belfast.
E. D. Mapother,	Galway.
J. M'Crevey,	Belfast.
M. O'K. Morris, A.B.,	Cork.
D. B. O'Flynn, A.M.,	Cork.
D. M. O'Hara,	Belfast.

3. *Degree of Master in Arts.*

A. G. Bartley,	Belfast.
J. Corkey,	Belfast.
J. Gibson,	Belfast
C. Lane,	Cork.
J. Moorhead, M.D.,	Galway & Belfast.
R. O'Leary,	Cork.
E. T. Palmer,	Cork.
W. A. Watts,	Galway.
W. T. Whan,	Belfast.

4. *Degree of LL.B.*

Name.	College.
T. O'B. O'Feely,	Galway.
J. D. Parker,	Galway.
R. Seeds,	Belfast.

5. *Degree of Bachelor in Arts.*

R. Bateman,	Galway.
J. Black,	Belfast.
M. Breen,	Cork.
J. Breen,	Galway.
T. Dann,	Cork.
J. Davidson,	Belfast.
T. Davidson,	Belfast.
E. Gardner,	Belfast.
M. Gould,	Cork.
W. Haynes,	Cork.
A. Henry,	Belfast.
J. W. Henry,	Galway.
J. D. Houston,	Belfast.
H. Kyle,	Belfast.
T. Lloyd,	Cork.
G. Macloskie,	Belfast.
J. Mark,	Belfast.
A. R. B. M'Cay,	Belfast.
R. Meares,	Belfast.
G. R. Moore,	Belfast.
J. Munro,	Galway.
W. O'Connor,	Cork.
S. Patton,	Belfast.
T. H. M. Scott,	Belfast.
R. Seeds,	Belfast.
W. Starkey,	Cork.
C. Townsend,	Cork.
J. Wilson,	Belfast.

6. *Diploma in Elementary Law.*

Name.	College.
C. Hooper, A.M., ...	Cork and Galway.

7. *Diploma in Engineering.*

D. Tierney, A.B., ...	Galway.

8. *Diploma in Agriculture.*

G. B. Bradshaw, ...	Galway.

9. *Certificate of having passed first Medical Examination.*

W. J. Busteed, ...	Cork.
E. Dann, ...	Cork.
M. Fagan, ...	Cork.
R. E. Heath, ...	Belfast.
F. Luther, ...	Cork.
W. M'Cloy, ...	Belfast.
J. M'Crea, ...	Belfast.
D. Taggart, ...	Belfast.
H. W. Thompson, ...	Belfast.
J. Wall, ...	Cork.
T. H. White, ...	Cork.

Distribution of Prizes.

M.D. HONORS.

1. *First Prize in Medicine.—Ordinance of* 1850.

A medal and an exhibition of £20, E. D. Mapother.

2. *First Prize in Medicine.—Ordinance of* 1852.

A medal and an exhibition of £10, W. M'Cormac.

Second Prize in Medicine.

An exhibition of £20, H. Dunlop.

A.M. HONORS.

Ancient Classics.

A medal and an exhibition of £15, R. O'Leary.

English, Logic, and Metaphysics.

A medal and an exhibition of £15, J. Gibson.

Mathematics, Pure and Mixed.

A medal and an exhibition of £15, E. T. Palmer.

Experimental and Natural Sciences.

A medal and an exhibition of £15, J. Moorhead, M.D.

LL.B. HONORS.

Law.

A medal and an exhibition of £10, T. O'B. O'Feely.

A.B. HONORS.

First Prize in Classics.

A medal and an exhibition of £15, J. Davidson,

English Language and Literature.

A medal and an exhibition of £10, A. R. B. M'Cay.

Logics and Metaphysics.

An exhibition of £15, A. R. B. M'Cay.

First Prize in Modern Continental Languages.

A medal and an exhibition of £15, M. Gould.

Natural Philosophy, Mixed Mathematics.

A medal and an exhibition of £15, M. Gould.

Second Prize in Pure Mathematics.

An exhibition of £10, M. Gould.

First Prize in Pure Mathematics.

A medal and an exhibition of £15, W. O'Connor.

Natural Philosophy, Physics.

A medal and an exhibition of £10, R. Bateman.

Chemistry.

A medal and an exhibition of £15, S. Patton.

Natural Sciences.

A medal and an exhibition of £15, G. Macloskie.

Jurisprudence and Political Economy.

A medal and an exhibition of £15, J. Munro.

Celtic Languages.

A medal and an exhibition of £10, J. Breen.

Second Prize in Classics.

An exhibition of £10, J. Wilson.

Second Prize in Modern Continental Languages.

An exhibition of £10, T. Davidson.

IN ELEMENTARY LAW.

A medal and an exhibition of £10, C. Hooper.

IN AGRICULTURE.

A medal and an exhibition of £10, G. Bradshaw.

MEDICINE, AT FIRST MEDICAL EXAMINATION.

An exhibition of £10, J. M'Crea.

Appendix IV.

Ordinance regulating the Conditions, Forms, and Subjects of the Degree, Diploma, and Honor Examinations, for the Year 1858.

General Regulations.

The Examinations of the year 1858 will commence on the last Tuesday in September, and will be carried on in the order prescribed in the annexed Tables.

The Pass Examinations will be principally by printed papers, with such *vivâ voce* interrogation as the Examiner may deem necessary. The Honor Examinations will be solely by printed papers.

The following Fees to the University are to be paid by the respective Candidates to the Secretary, before the Examination; they will not be returned in case of rejection, but are not required again for re-examination:—

Degrees.		Diplomas.	
LL.D., .	£3	Engineering, .	£3
M.D., . .	5	Elementary Law, .	2
A.M., . .	3	Agriculture, .	2
LL.B., .	1		
A.B., . .	1		

The Examiners shall select from among the successful candidates at the Pass Examination those whom they consider deserving of being examined for Honors,

APPENDIX IV.

Ordinance for the Degree, Diploma, and Honor Examinations.

and shall return their names to the Secretary, with the result of the Pass Examination. None others shall be entitled to compete for Honors, save for those in the Celtic, Sanscrit, or Arabic Languages, for which any Candidate who has passed for a Degree may present himself.*

Students passed for the Degree of A.B., may be examined for Honors in more than one department.

The Examiners are to recommend for Honors solely on the ground of absolute merit. If, consequently, Honors shall be withheld in any one branch of study, the Senate may, on the recommendation of the Examiners apply the amount to increase those in any other department.

Candidates must furnish to the Secretary, through the Registrars of their respective Colleges, on or before the 1st of September, the several Certificates required by the Ordinances; for this purpose they will be supplied by the Registrars with proper Forms and Schedules.

All Degrees and Honors are conferred at the Public Meeting of the University.

FACULTY OF ARTS.

EXAMINATION for the DEGREE of BACHELOR in ARTS, and for HONORS with that DEGREE.

Every Candidate will be required to answer for the Degree of A.B. in the subjects included in the Group A. of the following Table, and also to answer in the subjects of some one of the remaining three groups marked B. C. D. respectively.

1. GROUP A.—REQUIRED FROM ALL CANDIDATES.

a { The Latin Language and Literature.
{ The Greek Language and Literature.
b A Modern Foreign Language.
c Mathematics.

2. *e* SPECIAL GROUPS, in one of which the CANDIDATES must ANSWER.

GROUP B.

English Philology and Criticism.
Logic.
Metaphysics, or (in place of Metaphysics, at the option of the Candidate) Political Economy and Jurisprudence.

GROUP C.

Chemistry.
d Natural Philosophy.

GROUP D.

Zoology.
Botany.
Physical Geography.

a.—In the *Latin and Greek Languages* every Candidate will be allowed to select for his examination in each language the works enumerated below of some two of the following Classical Authors :—

Latin.

Virgil—First Six Books Æneid.
Horace— Satires, Epistles, and Art of Poetry.
Sallust.
Terence—Adelphi and Phormio.
Cicero—Orations against Cataline.
Tacitus—Agricola and de Moribus Germanorum.

Greek.

Xenophon—Anabasis, Books, 2, 3.
Homer—Iliad, four first Books.
Herodotus—Book I.
Æschylus—Prometheus Vinctus.
Euripides—Medea.
Lucian—Walker's Selections.

b.—In Modern Languages the Candidate will be allowed to select for his examination the French, the German, or the Italian language, and will be required to translate from two Modern Authors, in the language selected, and to translate an exercise from English into the same language.

c.—In Mathematics the Candidate will be examined in—

The 1st, 2nd, 3rd, 4th, and 6th Books of Euclid, and in the Definitions of the 5th Book.
Arithmetic, including Vulgar and Decimal Fractions.
Algebra, including the usual rules, to the end of Quadratic Equations, and the Nature and Use of Logarithms.
Plane Trigonometry.

d.—In the Examination in Natural Philosophy the Candidate will be expected to be able to give such mathematical proofs in reference to any question proposed as may be within the foregoing mathematical course.

e.—In the Examinations upon the subjects of the groups selected by the Candidates, the object of the Examiner will be to ascertain the extent and accuracy of the general knowledge of each subject possessed by the Candidate.

The special Courses and regulations of the Honor branches are as follows :—

1.—ANCIENT CLASSICAL LANGUAGES AND LITERATURE.

1st Honor; a Gold Medal, and an Exhibition, value £15.
2nd Honor; an Exhibition, value £10.

The Candidates for Classical Honors will be examined in the following course :—

Horace—Odes, Satires, and Epistles.
Virgil—Æneid, Books 1 to 8.
Cicero—Tusculan Disputations.
De Oratore.
Actiones Verrinæ.
Juvenal—Satires, 1, 3, 8, 13, 14.
Tacitus—Annals, Book 1.
Histories, Book 1.
Livy—Books 4 and 22.
Terence—Adelphi and Phormio.
Plato—Apologia and Crito.
Thucydides—Book I.
Herodotus—Book I.
Æschylus—Prometheus Vinctus.
Sophocles—Œdipus Coloneus.
Homer—Iliad, 20 to 24.
Odyssey, 12 to 18.
Euripides—Medea, Alcestis, and Orestes.
Greek and Latin Composition in Prose and Verse.

2.—ENGLISH LANGUAGE AND LITERATURE.

Honor: a Gold Medal, and an Exhibition, value £15.

The Candidates will be examined in the History, Philology, and Grammar of the English language, at various periods, and in the principles of Literary and Grammatical Criticism, as exemplified in its application to various Authors in English Literature.

3.—MODERN CONTINENTAL LANGUAGES.

1st Honor: a Gold Medal, and an Exhibition, value £15.
2nd Honor: an Exhibition, value £10.

Candidates will be examined in the History, Philology, and Grammar of the following Modern Languages, viz. : —The French or German, or the French and German, or the French, German, and Italian, as the Candidate may think proper. He will be required also to translate from English into the language or languages selected by him for examination.

4.—PURE MATHEMATICS.

1st Honor: a Gold Medal, and an Exhibition, value £15.
2nd Honor: an Exhibition, value £10.

The Candidates will be examined in the following Course :—

Euclid Books—1, 2, 3, 4, 6, and the definitions of the 5th Book.
Algebra, including its Application to Questions of Probabilities and Annuities, the Theory and Solution of the Higher Equations, the Theory of Logarithms, and the Construction and Use of Logarithmic Tables.

* Candidates for Honors in the Celtic, Sanscrit, or Arabic Languages, are requested to give their Names to the Secretary as soon as possible after the Degree Examination.

Plane Trigonometry, including Demoivre's Theorem and its Applications, and the Construction and Use of Trigonometrical Tables. Spherical Trigonometry and its Application to Astronomy.
Differential and Integral Calculus, including Differential Equations.
The First three Sections of the First Book of the Principia.
Conic Sections.
Co-ordinate Geometry, of Two and of Three Dimensions.

5.—NATURAL PHILOSOPHY—MIXED MATHEMATICS.

Honor: a Gold Medal, and an Exhibition, value £15.

Subjects of Examination—

Mechanics.
Optics.
Astronomy.

6.—NATURAL PHILOSOPHY—PHYSICS.

Honor: a Gold Medal, and an Exhibition, value £15.

The Examination will be conducted in accordance with the Courses of Instruction in Physics given in the Queen's Colleges.

7.—CHEMISTRY.

Honor: a Gold Medal, and an Exhibition, value £15.

The Subjects of Examination will be—

Chemical Philosophy.
Inorganic and Organic Chemistry.
Crystallography.

8.—NATURAL SCIENCES.

Honor: a Gold Medal, and an Exhibition, value £15.

The Subjects of Examination will be—

The Principles of Animal Structure and Classification.
The Principles of Vegetable Structure and Classification.
The Elements of Geology and Physical Geography.
The Laws of Geographical Distribution of Plants and Animals.

9.—LOGICS AND METAPHYSICS.

Honor: a Gold Medal, and an Exhibition, value £15.

The Examination will be conducted in accordance with the Courses of Instruction in Logics and Metaphysics given in the Queen's Colleges.

10.—JURISPRUDENCE AND POLITICAL ECONOMY.

Honor: a Gold Medal, and an Exhibition, value £15.

The Examination will be conducted in accordance with the Courses of Instruction in Jurisprudence and in Political Economy given in the Queen's Colleges.

11.—CELTIC LANGUAGES.

Honor: a Gold Medal, and an Exhibition, value £10.

The Examination will include the Critical History and Philology of the Hiberno-Celtic language, with translations of passages from Authors of different periods, and re-translations from English.

12.—SANSCRIT.

Honor: a Gold Medal, and an Exhibition, value £10.

13.—ARABIC.

Honor: a Gold Medal, and an Exhibition, value £10.

REGULATIONS for the EXAMINATION of CANDIDATES for the DEGREE of A.M.

A Candidate may proceed to obtain his Master's Degree by examination in any one of the four following Courses of Study, viz. :—

COURSE 1.—The Greek and Latin Classic Authors; Prose Composition in Greek, Latin, and English; French, German, or Italian.

COURSE 2.—English Philology and Criticism.
Logic.
Metaphysics, or (in place of Metaphysics, at the option of the Candidate) Political Economy and Jurisprudence.

COURSE 3.—*Mathematics, Pure and Mixed,* including the following subjects:—
Algebra, including the Theory of Equations, and the Theory of Probabilities.
Trigonometry, Plain and Spherical.
The Differential and Integral Calculus, including Differential Equations.
Analytical Geometry.
Statics and Dynamics, including Hydrostatics, Hydraulics, and Pneumatics.
Heat, Electricity, and Magnetism.
Optics.
Astronomy.

COURSE 4.—*Experimental and Natural Sciences,* including the following subjects:—
Experimental Physics.
Laws of Chemical constitution and combination, and the general properties and preparation of Organic and Inorganic bodies.
Structure, Functions, and Classification of Animals.
Structure, Functions, and Classification of Vegetables.
Zoological and Botanical Geography.
Elements of Geology, including Palæontology.
Elements of Physical Geography.
Elements of Mineralogy, including Crystallography.

A Gold Medal, and an exhibition of £15, will be conferred by the Senate upon any Candidate who shall obtain the first place in any one of the above four Courses of Study, if he be recommended as possessed of sufficient absolute merit.

REGULATIONS for the EXAMINATION of CANDIDATES for the DIPLOMA in CIVIL ENGINEERING or in AGRICULTURE.

1.—ENGINEERING DIPLOMA.

1. The Mathematical Examination of Engineering Candidates will include—

Arithmetic, including Vulgar and Decimal Fractions.
Algebra, to the end of Quadratic Equations.
Euclid, 1st, 2nd, 3rd, 4th, 5th, and 6th Books.
Mensuration.
Plain Trigonometry.
Elements of Spherical Trigonometry.
Construction and use of Logarithmic and Trigonometrical Tables.
Conic Sections.
Descriptive Geometry.

2. The Examination in Natural Philosophy, Chemistry, Mineralogy, and Geology, will be conducted with special reference to Engineering. In Natural Philosophy the Candidate will be required to supply in his answers all such mathematical proofs as may be within the Mathematical Course above specified.

Every Engineering Candidate will be required to produce one of his own drawings of each of the following kinds, viz. :—of Bridges and Roads, accompanied by Plans and Sections; Topographical Maps, with the Field-books and observations from which the whole were constructed. Candidates are recommended to produce Architectural drawings and drawings of Machinery. These drawings must be certified by the Teacher of Drawing in the College as having been *bonâ fide* executed by the Candidate.

Candidates will be furnished with data for a project of Constructive Engineering or Architecture, and will be required to furnish detailed propositions for carrying same into effect, with estimates and specifications.

2.—AGRICULTURAL DIPLOMA.

The Examination will include—

Arithmetic, with Vulgar and Decimal Fractions.
Mensuration, practically treated.
Principles of Natural Philosophy (without Mathematical proof.)

and all the other subjects of the Course for the Agricultural Diploma specified in the Ordinances, considered specially in their applications to Agriculture and Land Improvement.

The Candidate is recommended to produce any Surveys or Maps, with the Field-books from which they were constructed, which he may have prepared during his term of instruction in Surveying.

The Candidate will be furnished with data for a project of Farm Improvement, and required to furnish a detailed proposition for carrying the same into effect, with estimates and specifications.

The Candidate will be required to exhibit and explain a plan previously arranged by him for keeping Farm Accounts.

HONOR EXAMINATION in the DEPARTMENT of ENGINEERING and AGRICULTURE.

Engineering—Honor: a Gold Medal, and an Exhibition, value £10.

The Examination in Mathematics will include the following additional Course:—

The Higher Algebra.
Differential and Integral Calculus, Differential Equations.
Co-ordinate Geometry of two and of three dimensions.
Spherical Trigonometry, and its applications to Astronomy and Geodesy.
The first three Sections of the First Book of the Principia.

In the examination in Natural Philosophy and in the theory and construction of Machines, the subjects will be mathematically treated.

Agriculture—Honor: a Gold Medal, and an Exhibition, value £10.

FACULTY OF LAW.

FOR THE DEGREE OF LL.D.

Candidates may present themselves for Examination for the Degree of LL.D. two years after having obtained the Degree of LL.B., and will be examined in the Laws of the Admiralty and Ecclesiastical Courts of England and Ireland, in addition to the subjects of Examination for the Degree of LL.B.

FOR THE DEGREE OF LL.B.

Candidates will be examined in the Law of Property, and Principles of Conveyancing, Jurisprudence, Equity, Common and Criminal Law, Civil Law, Pleading, Practice, and Evidence, Constitutional, Colonial, and International Law.

LL.B. HONOR EXAMINATION.

Honor: a Gold Medal, and an Exhibition, value £10.

FOR DIPLOMA IN ELEMENTARY LAW.

Law of Property, and Principles of Conveyancing, Jurisprudence, Equity, Common and Criminal Law, Civil Law.

HONOR EXAMINATION IN ELEMENTARY LAW.

Honor: a Gold Medal, and an Exhibition, value £10.

FACULTY OF MEDICINE.

REGULATIONS for the EXAMINATION of CANDIDATES for DEGREES and HONORS.

Candidates for the Degree of M.D., proceeding under the Ordinance of 30th June, 1850, must answer in all the subjects of the Course prescribed by that Ordinance. Candidates proceeding under the Ordinance of 15th March, 1852, may present themselves for either one or both of the Examinations thereby prescribed.

HONOR EXAMINATION in the FACULTY of MEDICINE.

Honor: a Gold Medal, and an Exhibition, value £15, . . .	For Candidates proceeding under the Ordinance of June, 1850.
1st Honor: a Gold Medal, and an Exhibition, value £15, . .	For Candidates in the second examination under the Ordinance of 15th March, 1852.
2nd Honor: an Exhibition, value £10, . .	
Honor: an Exhibition, value £10, . .	For Candidates in the first examination under the said Ordinance.

By Order,

G. JOHNSTONE STONEY, *Secretary.*

The Queen's University, 6th November, 1857.

CARLISLE.

I, GEORGE WILLIAM FREDERICK, EARL OF CARLISLE, Lord Lieutenant-General and General Governor of Ireland, do hereby approve of the foregoing Ordinance.

By His Excellency's Command,

THOS. A. LARCOM.

Order of the Degree and Diploma Examination in the following Studies in the Queen's University in Ireland, 1858.

		ARTS, A.B. Degree.	AGRICULTURE.	MEDICINE.	ENGINEERING.
Tuesday, 28th September,	Morning,	Latin,	Theory of Agriculture, Farm Finance, and Accounts,	Medicine.	
	Afternoon,	Greek,	Practice of Agriculture, Farm Improvements,	Surgery,	Drawing and Descriptive Geometry.
Wednesday, 29th September,	Morning,	Modern Languages,	History and Diseases of Farm Animals,	Modern Languages,	Engineering, and Architecture and Finance.
	Afternoon,	English Literature,	Surveying and Mapping,	Materia Medica, Pharmacy, and Medical Jurisprudence,	Surveying and Mapping.
Thursday, 30th September,	Morning,	Mathematics,	Arithmetic,	Midwifery and Diseases of Women and Children,	Mathematics.
	Afternoon,	Logic, Metaphysics,	—	Physiology and Comparative Anatomy,	Mathematics.
Friday, 1st October,	Morning,	Chemistry,	Chemistry,	Chemistry,	Chemistry.
	Afternoon,	Natural Philosophy,	Elements of Physics,	Natural Philosophy,	Natural Philosophy, Practical Mechanics.
Saturday, 2nd October,	Morning,	Zoology and Botany,	Principles of Zoology and Botany,	Botany (Zoology Junior Class).	
	Afternoon,	Physical Geography,	Mineralogy and Geology, Physical Geography,	Anatomy,	Mineralogy, Geology, and Physical Geography.
Monday, 4th October,	Morning,	Jurisprudence and Political Economy,			
	Afternoon,	For any *viva voce* Examination Examiners may wish to give in addition to above.			
Tuesday, 5th October,	10 o'clock,	Examiners to meet to make up their Report, and to recommend for Examination for Honors.			
	4 o'clock,	Students to assemble to hear result of Examiners' Report.			

APPENDIX IV.

Ordinance for the Degree, Diploma, and Honor Examinations.

PROVISIONAL ORDER of the A.M., LAW, and HONOR EXAMINATIONS in the QUEEN'S UNIVERSITY in IRELAND, for the year 1858.*

A.M. DEGREE AND HONORS.

GROUP 1.

Greek—Wednesday, 6th October, Morning and Afternoon.

Latin—Thursday, 7th October, Morning and Afternoon.

English Composition—Friday, 8th October, Morning.

Modern Continental Languages—Saturday, 9th October, Morning.

GROUP 2.

English Philology and Criticism—Friday, 8th October, Morning and Afternoon.

Logic—Saturday, 9th October, Morning.

Metaphysics—Saturday, 9th October, Afternoon.

Jurisprudence—Monday, 11th October, Morning.

Political Economy—Monday, 11th October, Afternoon.

GROUP 3.

Mathematics, Pure and Mixed :—

Mixed Mathematics—Wednesday, 6th October, Morning and Afternoon.

Pure Mathematics—Monday, 11th October, Morning and Afternoon.

GROUP 4.

Experimental and Natural Sciences :—

Chemistry—Thursday, 7th October, Afternoon.

Zoology and Botany—Friday, 8th October, Morning.

Mineralogy, Geology, and Physical Geography—Friday, 8th October, Afternoon.

Physics—Saturday, 9th October, Morning.

A.B. HONORS.

1. Ancient Classical Languages and Literature :—
   Greek—Wednesday, 6th October, Morning and Afternoon.
   Latin—Thursday, 7th October, Morning and Afternoon.
2. English Language and Literature—Friday, 8th October, Morning and Afternoon.
3. Modern and Continental Languages—Saturday, 9th October, Morning.
4. Pure Mathematics—Monday, 11th October, Morning and Afternoon.
5. Natural Philosophy—Mixed Mathematics—Wednesday, 6th October, Morning and Afternoon.
6. Natural Philosophy—Physics—Saturday, 9th October, Morning and Afternoon.
7. Chemistry—Thursday, 7th October, Morning and Afternoon.
8. Natural Sciences :—
   Zoology and Botany—Friday, 8th October, Morning.
   Mineralogy, Geology, and Physical Geography—Friday, 8th October, Afternoon.
9. Logics and Metaphysics :—
   Logics—Saturday, 9th October, Morning.
   Metaphysics—Saturday, 9th October, Afternoon.
10. Jurisprudence and Political Economy :—
    Jurisprudence—Monday, 11th October, Morning.
    Political Economy—Monday, 11th October, Afternoon.
11. Celtic Languages†—Saturday, 9th October, Afternoon.
12. Sanscrit†—Saturday, 9th October, Afternoon.
13. Arabic†—Saturday, 9th October, Afternoon.

* In the event of a Candidate for Honors in the A.B. Course being recommended in two subjects here set down for the same hour, an alteration of the above may be necessary.

† Candidates for other Degrees than that of A.B. may also compete for the Honors in the Celtic, Sanscrit, and Arabic languages.

FACULTY OF LAW and HONORS in MEDICINE, ENGINEERING, and AGRICULTURE.

		HONORS IN			FACULTY OF LAW.		
		MEDICINE.	ENGINEERING.	AGRICULTURE.	DIPLOMA OF ELEMENTARY LAW.	THE DEGREE OF LL.B.	THE DEGREE OF LL.D.
WEDNESDAY, 6TH OCT.	Morning,	Natural Philosophy.	Natural Philosophy.	Elements of Physics.	Law of Property, and Principles of Conveyancing. Jurisprudence.	Law of Property, and Principles of Conveyancing. Jurisprudence.	Law of Property, and Principles of Conveyancing. Jurisprudence.
	Afternoon,	Medicine.	Practical Mechanics, Motive Powers.	Theory of Agricultural Finance and Farm Accounts.	Equity, Common and Criminal Law. Civil Law.	Equity, Common and Criminal Law. Civil Law.	Equity, Common and Criminal Law. Civil Law.
THURSDAY, 7TH OCT.	Morning,	Chemistry.	Chemistry.	Chemistry.		Pleading, Practice, and Evidence. Constitutional and Colonial and International Law.	Pleading, Practice, and Evidence. Constitutional and Colonial and International Law.
	Afternoon,	Surgery.	Surveying and Mapping.	Surveying and Mapping.			
FRIDAY, 8TH OCT.	Morning,	Botany and Zoology.	Civil Engineering.	Zoology and Botany.	Time to be fixed by Examiners.		
	Afternoon,	Midwifery, and Diseases of Women and Children.	Mineralogy, Geology, and Physical Geography.	Mineralogy, Geology, and Physical Geography.	HONOR EXAMINATION. Law of Property, and Principles of Conveyancing. Jurisprudence.	HONOR EXAMINATION. Law of Property, and Principles of Conveyancing. Jurisprudence.	Admiralty Laws.
SATURDAY, 9TH OCT.	Morning,	Modern Languages.	Architecture, Engineering Finance.	Practice of Agriculture—Farm Improvements.			Ecclesiastical Laws.
	Afternoon,	Materia Medica, Pharmacy, and Medical Jurisprudence.	Drawing, Descriptive Geometry.	History and Diseases of Farm Animals.	Equity, Common and Criminal Law. Civil Law.	Equity, Common and Criminal Law. Civil Law. Pleading, Practice, and Evidence, Constitutional and Colonial and International Law.	
MONDAY, 11TH OCT.	Morning,	Anatomy and Physiology.	Mathematics.	Arithmetic.			
	Afternoon,	Anatomy, human and comparative.	Mathematics.				

The Examiners will meet to make up their Report on the Honor Examinations on Wednesday, the 13th October, at 10 o'clock, a.m., and the result will be announced to the Candidates at 4 o'clock, p.m.

The Public Meeting will probably take place on Friday, October 15th.

Appendix V.

Appendix V. — Returns of Students attending Medical Schools and Hospitals.

Returns of Students attending the following Medical Schools and Hospitals have been received during the year ended June, 1858.

Medical Schools of—	Hospitals.
Cecilia-street.	Belfast,
Original Peter-street.	City of Dublin.
Richmond.	Galway Infirmary and Fever Hospital.
Queen's College, Belfast.	House of Industry.
Queen's College, Cork.	Jervis-street.
Queen's College, Galway.	Meath,
Trinity College, Dublin.	Mercer's.
Lying-in Hospitals.	N. and S. Infirmaries, Cork.
Belfast.	Steevens'.
Cork.	St. Vincent's.
Rotundo.	

Students who intend to present themselves for examination for Medical Degrees in the Queen's University, should ascertain that their names are returned for any Medical Lectures they may attend, lest in consequence of such returns not having been supplied, their qualifications should be deemed insufficient when they so present themselves; and lecturers who are willing to make the required returns, and who have not received the necessary forms through the Registrars of the respective institutions, should cause application to be made for them.

Appendix VI.

Appendix VI. — Estimate of the Sum required for the Queen's University.

An Estimate of the Sum that will probably be required to defray the Expenses of the Queen's University in Ireland, for the year ending 31st March, 1859.

Two Thousand Three Hundred and Twenty-three Pounds.

Salaries of Examiners.	£	s.	d.
1. In Greek,	100	0	0
2. In Latin,	100	0	0
3. In Modern Languages,	50	0	0
4. In Celtic Languages,	20	0	0
5. In Mathematics,	100	0	0
6. In Logic and Metaphysics,	50	0	0
7. In Chemistry,	100	0	0
8. In Zoology and Botany,	75	0	0
9. In Natural Philosophy,	100	0	0
10. In English Literature,	50	0	0
11. In Mineralogy, Geology, and Physical Geography,	50	0	0
12. In Jurisprudence and Political Economy,	40	0	0
13. In Theory and Practice of Medicine,	100	0	0
14. In Theory and Practice of Surgery,	100	0	0
15. In Materia Medica, Pharmacy, and Medical Jurisprudence,	100	0	0
16. In Anatomy, Physiology, and Comparative Anatomy.	100	0	0
17. In Midwifery, and Diseases of Women and Children,	75	0	0
18. In Engineering and Surveying,	50	0	0
19. In Agriculture and Farm Management,	50	0	0
20. In Law,	40	0	0
	£1,450	0	0
Office Charges.			
Secretary's Salary,	350	0	0
Incidentals, Office Expenses, Postage, Messengers, Advertisements, &c.,	180	0	0
Exhibitions, Prizes, Medals,	475	0	0
	£2,455	0	0
Probable amount of Fees, (being the sum received, 1856),	132	0	0
Total Sum required,	£2,323	0	0

Appendix VII.

Appendix VII. — Cash Account of the Queen's University.

Cash Account of the Queen's University, for the year ending 20th June, 1858.

Dr.	£	s.	d.	*Cr.*	£	s.	d.
To Balance of Account, June, 1856,	513	16	8	By Salaries of Examiners and Secretary,	1,812	10	8
,, Parliamentary Grant, 1855, 1856,	2,425	0	0	,, Incidental Expenses,	156	14	10
,, Fees on Degrees and Diplomas,	132	0	0	,, Medals and Exhibitions,	403	4	0
				,, Balance in Bank,	698	7	2
Total Charge,	£3,070	16	8	Total Discharge,	£3,070	16	8

Appendix VIII.

Appendix VIII. — Examiners elected.

Examiners Elected 19th July, 1858.

Greek.—Charles Mac Douall, LL.D., Professor, Q.C., Belfast.

Latin.—Richard Blair Bagley, A.M., Professor, Q.C., Galway.

English Literature.—William Rushton, Esq., Professor, Q.C., Cork.

Logic and Metaphysics.—Rev. James M'Cosh, LL.D., Professor, Q.C., Belfast.

Mathematics.—George J. Allman, LL.D., Professor, Q.C., Galway.

Natural Philosophy.—John Stevelly, LL.D., Professor, Q.C., Belfast.

Chemistry.—Thomas H. Rowney, Ph.D., Professor, Q.C., Galway,

Anatomy and Physiology.—George Ben. M'Dowell, M.D., F.R.C.S.I.

Zoology and Botany.—William H. Harvey, M.D., Professor T.C., Dublin.

Modern Languages.—Augustus Bensbach, M.D., Professor, Q.C., Galway.

Mineralogy, Geology, and Physical Geography.—William King, Professor, Q.C., Galway.

Jurisprudence and Political Economy.—D. Caulfeild Heron, LL.D., Professor, Q.C., Galway.

Law.—Echlin Molyneux, A.M., Professor, Q.C., Belfast.

Civil Engineering and Surveying.—James Thomson, A.M., Professor, Q.C., Belfast.

Agriculture.—Thomas Skilling, Professor, Q.C., Galway.

Celtic Languages.—Owen Connellan, Esq., Professor, Q.C., Cork.

Medicine.—John C. Ferguson, A.M., M.B., Professor, Q.C., Belfast.

Surgery.—M. H. Collis, M.B.

Materia Medica, Pharmacy, and Medical Jurisprudence.—T. Geoghegan, M.D.

Midwifery, and Diseases of Women and Children.—Jos. R. Harvey, A.B., M.D., Professor, Q.C. Cork.

APPENDIX IX.

Meetings of the Senate.

APPENDIX IX.

MEETINGS of the SENATE for the period of this Report in the Office of the University, Dublin Castle.

1st October, 1857.

Present:

The Right Hon. Lord Chancellor Brady, *Vice-Chancellor.*
The President of Queen's College, Belfast.
The President of Queen's College, Cork.
The Vice-President of Queen's College, Galway.
Dominic J. Corrigan, M.D.

G. Johnstone Stoney, A.M., *Secretary.*

Public Meeting, October 3, 1857.

Present:

The Right Hon. Lord Chancellor Brady, *Vice-Chancellor.*
The Right Hon. Francis Blackburne, Lord Justice of Appeal.
Sir Philip Crampton Bart., M.D.
The President of Queen's College, Belfast.
The President of Queen's College, Cork.
The Vice-President of Queen's College, Galway.
Dominic J. Corrigan, M.D.
Lieut-Colonel Larcom, R.E., LL.D.,
James Gibson, A.M.

G. Johnstone Stoney, A.M., *Secretary.*

7th January, 1858.—*Stated Meeting.*

Present:

The Right Hon. Lord Chancellor Brady, *Vice-Chancellor.*
Sir Philip Crampton Bart., M.D.
The President of Queen's College, Belfast.
Richard Griffith, LL.D.
Robert Andrews, LL.D.

G. Johnstone Stoney, A.M., *Secretary.*

10th April, 1858.

Present:

The Right Hon. Maziere Brady, *Vice-Chancellor.*
His Grace Richard, Archbishop of Dublin.
The Right Hon. Francis Blackburne, Lord Justice of Appeal.
The President of Queen's College, Belfast.
The President of Queen's College, Cork.
Sir Richard Griffith, Bart., LL.D.

G. Johnstone Stoney, A.M., *Secretary.*

28th May, 1858.

Present:

The Right Hon. Maziere Brady, *Vice-Chancellor.*
The President of Queen's College, Cork.
The President of Queen's College, Galway.
Sir Richard Griffith, Bart., LL.D.
Robert Andrews, LL.D.

G. Johnstone Stoney, A.M., *Secretary.*

21st June, 1858.—*Stated Meeting.*

Present:

The Right Hon. Francis Blackburne, Lord Justice of Appeal, *in the Chair.*
The President of Queen's College, Belfast.
The President of Queen's College, Cork.
Lieut-Colonel Larcom, R.E., C.B.
James Gibson, A.M.

G. Johnstone Stoney, A.M., *Secretary.*

19th July, 1858.

Present:

His Grace Richard, Archbishop of Dublin, *in the Chair.*
The Right Hon. Francis Blackburne, Lord Justice of Appeal.
The President of Queen's College, Belfast.
The President of Queen's College, Cork.
The Vice-President of Queen's College, Galway.
Dominic J. Corrigan, M.D.

G. Johnstone Stoney, A.M., *Secretary.*

DUBLIN: PRINTED BY ALEX. THOM & SONS, 87 & 88, ABBEY-STREET,
FOR HER MAJESTY'S STATIONERY OFFICE.

REPORT

ON

THE CONDITION AND PROGRESS

OF THE

QUEEN'S UNIVERSITY IN IRELAND,

FROM

1st SEPTEMBER, 1857, TO 1st SEPTEMBER, 1858.

BY

THE RIGHT HON. MAZIERE BRADY,

VICE-CHANCELLOR OF THE UNIVERSITY.

Presented to both Houses of Parliament by Command of Her Majesty.

DUBLIN:

PRINTED BY ALEX. THOM & SONS, 87 & 88, ABBEY-STREET.

FOR HER MAJESTY'S STATIONERY OFFICE.

1858.